EXPLORING ACADEMIC RESILIENCY IN A CORRECTIONS EDUCATION HIGH SCHOOL EQUIVALENCY PROGRAM

by

Richard Jason Westover

Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

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ABSTRACT

This research examined ways in which academic resilience may play a role in corrections education students. Corrections education administrators require information to guide future corrections education curricula. Academic resilience information specific to corrections education is currently not available, therefore this study is important for the required knowledge. The purpose of this study was to examine the levels of academic resiliency in corrections education students who successfully completed a high school equivalency program. The sample was drawn from a Pennsylvania prison population, the goal was to recruit 110 students who were enrolled, or successfully completed a high school equivalency program while incarcerated. The Academic Resiliency Scale-30 was used to capture data on subject resiliency. The study used a causal-comparative quantitative design. Descriptive statistics captured nominal data. A Kolmogorov-Smirnov test was conducted to test the assumption of normality. The assumption of normality was not met. A *t* test was used to test the null hypothesis. The null hypothesis was rejected at a 95% confidence level where $p = 0.003$. A medium effect size was indicated by Cohen's *d*. A Mann-Whitney U test was run as the nonparametric equivalent of a *t* test due to the assumption of normality not being met. The null was once again rejected where $p = 0.003$. A Spearman's Rho correlation was conducted and revealed that no significant correlation between academic resilience scores and age were found. However, a significant difference was discovered in academic resilience scores between inmate students who successfully completed a corrections education high school equivalency course as compared to inmate students who failed to successfully complete a high school equivalency course while incarcerated.

Keywords: self-efficacy, learned helplessness, growth mindset, resilience, academic resilience

Dedication

Thank you to everyone who provided guidance, wisdom, or an encouraging word throughout the past several years. There are a few of you who have had a bigger impact than you may ever know. Your work ethic, the ways you motivate me to be better, the way you view and face the world, the way you carry yourself with dignity and a quiet confidence. I appreciate the fact you believe in me when many have not. I hope to someday repay you for all you have provided to me.

Amy, thank you for sacrificing your time in order to keep the kids busy and distracted while they were young, allowing me to focus on assignments and school. Your resilience and ability to overcome adversity was a starting point for this research. You have fought many battles and have prided yourself on being a mother and providing the kids with a caring homelife.

Thank you to my children. I am truly blessed to have three unique and caring kids. Ayden, your heart, and the way you view the world have made me a better person. You were first born and an absolute blessing. Nolan, your energy, and the way you like to make others feel good about themselves is one of your greatest traits. You are one of the most caring individuals I have ever met. Camdyn, you have been a fighter since the moment you were born. You are beautiful inside and out. Never lose your desire to change the world, and never stop fighting for what you believe in. You all will never know how much I love you. I try to set a positive example for you and be a person you are proud of. I try to be someone you can look towards for strength, courage, and look towards to become inspired, because each of you have been, and continue to be, those examples to me.

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List of Abbreviations

Academic Resilience Scale 30 (ARS-30)

Adverse Childhood Experiences (ACE's)

Department of Corrections Network (DOCNET)

Pennsylvania Department of Corrections (PADOC)

CHAPTER ONE: INTRODUCTION

Overview

Historically, many incarcerated individuals read and comprehend at a significantly lower rate and are more likely to have not earned a high school equivalency diploma as compared to non-incarcerated individuals (Scott, 2016). Nearly 90% of the general population, 25 years old or older, have a high school diploma or GED as compared to only 59% of individuals incarcerated in a federal or state prison (Drake & Fumia, 2017). This chapter contains background of the problem in more detail followed by a problem statement, purpose of study, significance of study, research questions, and definitions.

Background

The cost to taxpayers to house inmates is very high, as are the lost opportunities of earning potential for the individual who is undereducated and incarcerated. The United States has had a mass incarceration problem for the past thirty years. Some believe mass incarceration is a result of the 1980's political platforms and the implementation of the war on drugs, while others attribute the numbers of incarceration to the trickle-down effects that have plagued our economy and our neighborhoods for the past forty years (Sawyer & Wagner, 2020). Therefore, studying resiliency to improve academic outcomes for incarcerated students is vital.

The rate of non-violent offenders who were incarcerated rose from 50,000 in 1980 to 400,000 in 1997 (The War on Drugs, 2018). The United States houses an unusually high number of individuals in local and county jails, state and federal correctional institutions, and immigration and customs enforcement detention centers. The United States now has both the highest incarceration rate 698 per 100,000 residents and the largest total number of people behind bars of any country in the world: 2.3 million individuals (Sawyer & Wagner, 2020).

More than 1 in 100 adults is currently incarcerated in jail or prison (The Pew Charitable Trusts, 2008 as cited by Brazzel, 2009).

Most incarcerated inmates will reenter society and need to find meaningful ways to contribute both practically and financially. Nearly 630,000 inmates are released per year back into society in the United States, roughly 1,700 per day. These numbers are even more staggering when examining the criminal illegal alien population.

Education has been widely recognized as a pathway to assimilation and economic mobility for immigrant and other disadvantaged populations throughout U.S. history (Issacs, Sawhill, & Haskins 2008, as cited by Brazzel, 2009). The need for high quality education is extremely important for individuals in the criminal justice system. In Pennsylvania alone during 2019, 43,028 males were housed within a Pennsylvania Department of Corrections State Correctional Institute. Racially, 42% of those incarcerated were listed as Caucasian, while 58% of individuals incarcerated were Black, Hispanic, or other (Kuba, 2020). Correctional facilities in the United States house a staggering amount of minority individuals as compared to the overall population census numbers of African Americans, Hispanics, and Caucasian individuals not incarcerated. Corrections education administrators must examine their role in the greater context of history and create a greater understanding of how we got to where we are in the corrections education field. Correction education professionals serve a high rate of students who are statistically more likely to be undereducated and of a minority status than many school districts in the United States. Therefore, the problem is widespread across many ethnic boundaries.

A corrections education classroom is likely to mimic inner city schools. The challenges facing a corrections education classroom are similar to the challenges that inner-city schools in the United States are often tasked with. Unfortunately, corrections education is not viewed with

the same passion or vigor. Nor has corrections education curriculum garnished the attention from others who have stepped up to challenge the status quo on the educational system. Alarms would sound if a corrections education classroom were viewed strictly based on testing and levels of poverty. The inmate population in a corrections education classroom are often vulnerable and likely identified as at-risk prior to being incarcerated. A difference with corrections education versus public education is that the students are not viewed from the academic arena as much as they are from the point of view that they are incarcerated as a convicted felon. Corrections education administrators are not in a position to judge, nor should they be, but rather a corrections education administrator must view the problem of low high school equivalency in corrections education as a challenge through an academic and at-risk student standpoint. If ages were set aside, and corrections education students viewed strictly through data and statistics, that student would likely be eligible for increased supports to succeed. This would be especially true if a student were under the age of 21 and would fall under the guidelines of No Child Left Behind and federal special education law (Department of Education, 2011). The majority of society no longer views a student through the same lens when a student fails out of their school district and becomes incarcerated. A task for corrections education administrators is that corrections education must be fiscally responsible. The likelihood that corrections education receives funding similar to public education is not a realistic option. Corrections education administrators must find ways to provide a better product and to produce a best practice with the funding and the resources that are already available.

The corrections education standard has predominantly been an ability to lower recidivism rates of inmate participants. Research shows that those who re-enter societies with an education credential are less likely to be rearrested, reconvicted, and incarcerated (Steurer & Smith, 2003).

Levels of education, GED attainment, and lowered levels of recidivism have been documented in the past (Harer, 1994). Raising an individual's education level is a moderate to high factor that leads to lowering the recidivism rate by nearly thirty percent (Visher, 2006). The need for education continues to be cited as a barrier for inmate offenders reintegrating into society. Nearly 37% of state prisoners have obtained less than a high school education in 2004 as compared to the general U.S population which has an over 80% high school graduation rate.

The focus in corrections education has evolved where it is widely accepted that education has a place and purpose in corrections. The focus in corrections education must now move towards studying best practices, specifically, what factors will lead to an increase in high school equivalency attainment. An education is undoubtedly a key contributor that leads to success for individuals. There are numerous studies highlighting correlations of successful individuals and level of educational achievement. The process of attaining an education, or becoming educated, has the potential to change lives. Incarcerated adults are overwhelmingly undereducated compared with the general population, with lower levels of formal educational attainment and poorer performance on tests of basic literacy (Brazzel, Crayton, Mukamal, Solomon, & Lindahl, 2009). Current trends in correctional education are beginning to shift away from whether corrections education matters, but how can it be best implemented and maximized. The United States Federal Bureau of Prisons has instituted Special Education programs and teachers at every institution. Many state facilities have followed their lead. The Pennsylvania Department of Corrections follows a curriculum advocated by the Pennsylvania Department of Education by providing eligible inmate students with an Individual Education Plan, a special education teacher at several designated special education provider facilities, as well as a guidance counselor to assist an inmate with meeting educational needs. Views are now shifting away from data and

cost analysis of the price of corrections education. Corrections education pedagogy and curriculum are now being examined. In addition to pedagogy and curriculum, student mindset and learned helplessness continue to plague corrections education.

Corrections education would benefit greatly by understanding the cognitive aspects of the corrections education experience and narrowing in on ways in which inmate students can improve their abilities and chances at future success. Corrections education should focus not solely on student cognition or emotion, but on skills that may make living life full. The focus on corrections education and studies that discuss curriculum or pedagogy are essentially nonexistent. This study seeks to pull from experiences of perceived student self-efficacy and resiliency factors successfully implemented in other educational arenas, such as secondary education and the middle and elementary grades. Resiliency factors and mindset techniques are proven indicators of success for organizations such as the United States Army, and within the middle and secondary levels. It would be reasonable to assume that resiliency factors would also be a major indicator of whether an inmate student is able to be successful in a corrections education classroom (Seligman, 2018). The approach that could be taken to alleviate student obstacles is by assessing whether resiliency factors play a role in allowing students to achieve. Similar beliefs in other educational arenas are producing positive results. A study by Low, King, and Foster Boucher (2019), highlighted the positive effects of resiliency factors in nursing students. The authors found that the characteristics of a resilient student included the interpersonal characteristic of an individual with a disposition of control, self-confidence, and positivity. Low et al., (2019) believed that introducing nursing students to resiliency development would increase student self-efficacy. Furthermore, resilience research has provided

evidence to support the idea that resilience is an attribute learned and developed in the education setting. (McAllister & McKinnon, 2009).

Problem Statement

The cost to taxpayers to house inmates is very high, as are the lost opportunities of earning potential for the individual who is undereducated and incarcerated (Craigie et al, 2020). An individual who fails to earn a high school equivalency will earn significantly less over the course of their earning career than an individual who obtains a high school equivalency (Akers, 2013).

The literature has noted correction education student success is vital to improve the incarceration experience of an incarcerated student and their overall earning potential. According to Akers, (2013), a high school dropout in 2012 could expect to earn $10,000 less per year than their counterpart who earned a high school diploma and nearly $36,000 less per year than an individual with a college degree. The cost to incarcerate an individual, which taxpayers foot a large proportion of the bill, estimates annually at a rate of nearly $40,000 to $50,000 a year per inmate (Akers, 2013). In Pennsylvania, the cost to incarcerate an inmate is nearly $43,000. The amount attributed to individual Pennsylvania taxpayer burden is roughly $168 spent on state prisons per year (Kuba, 2020).

This research is vital to study because of its potential to improve high school equivalency program success because the literature has not noted the impact of academic resiliency in incarcerated students. Succeeding or failing to succeed in these programs has huge implications for the long-term well-being of incarcerated individuals. The general literature has linked student resiliency to outcomes in secondary and higher education (Sisk et al, 2018), but this has not yet been studied in the prison population.

Therefore, the problem is a gap in the literature exists with respect to the relationship between student resiliency and successful academic achievement in prison education.

Purpose Statement

The purpose of this causal-comparative quantitative study is to examine the levels of academic resiliency in corrections education students who successfully complete a high school equivalency program. Causal-comparative research is an investigation that seeks to discover possible causes and effects of a personal characteristic by comparing individuals in which the characteristic is present (Gall, Gall, & Borg, 2007). The characteristic sought in this research is level of academic resilience possessed by corrections education students. Population size of students who have been enrolled in academic classes at the State Correctional Institute utilized is roughly 500. The independent variable will be corrections education students who successfully completed a high school equivalency and corrections education students who were not successful in completing a high school equivalency program in which they were enrolled while incarcerated because they were removed for lack of attendance, negative behavior, or the student voluntarily stopped attending classes. The ARS – 30 Academic Resiliency Scale will be utilized in order to gather academic resiliency data on the dependent variable.

Significance of the Study

This study would be of significance to the entire field of corrections education. This research could not only improve ways to implement curriculum, but also improve the overall experience of corrections education for inmate students. This study could lead to best practices within the corrections education field. This study also has ramifications outside of corrections education. Corrections education plays a vital role to students by providing students an opportunity to reset their lives in a positive manner. Corrections education also provides large

amounts of return on investment for tax- payers who often foot the bill for individuals who are incarcerated (Scott, 2016).

From a theological standpoint, corrections education deserves considerable thought. Genesis 1:26 states that God created man in his own image (KJV). Inmate students are no different from a traditional non-incarcerated student in the eyes of God, and in how He created us all. An education for an incarcerated individual can be a new lease on life, an opportunity to succeed in an arena that many have either previously failed in, or were simply never offered a chance to learn and grow in. 2 Cor. 5:17, states, "If any man be in Christ, his is a new creature, old things are passed away; behold, all things become new" (KJV).

The need for high quality corrections education programs cannot only be examined through a practical standpoint. From a practical standpoint, one could argue that a civilized society, which values the rights and opportunities of all men, owes all individuals an opportunity to succeed in society. Hundreds of millions of dollars are invested yearly in programs that seek to close learning gaps for disadvantaged and at-risk students. Unfortunately, despite the contributions and funding, students are still falling short and finding themselves incarcerated (Mallet, 2016). Theoretically, corrections education students are often an expansion of a non-homogeneous population of students that were once determined to be at-risk. Many students continue to possess characteristics such as low self-confidence with schoolwork, distrust of educators and authority figures, and have limited notions of their academic futures (Hernandez, 2016). According to McGowan, Palmer, Wood, and Hibner, (2016) black males are more likely to be expelled from school, or be labeled as low achievers, regardless of special education needs or placement. Authors who examined success stories found that a major benefactor to successful at-risk students is that several successful black males were able to utilize mindset and resilience

to overcome adverse situations (McGowan et al, 2016, p. 8). Robert T. Palmer, an at-risk survivor, shared a story in which he was able to overcome adversity and less than fortunate circumstances, including failing several grades at a young age, to become a tenured professor. Palmer said that rather than deter him, the events he faced pushed him forward, giving him a greater resolve (McGowan, Palmer, Wood, and Hibbler, 2016) Similar information was discovered viewing the results of a meta-analysis regarding academic success and mindset. Sisk et al, (2018) found that mindset alone was not the main determinant towards academic success for all students, but mindset and resilience did show favorable results for at-risk and low socioeconomic students. The results of the most recent studies on mindset and academic achievement do not support a large effect regarding mindset and academic achievement, but rather mindset is more of a cog in the resilience cycle (Sisk et al, 2018).

Resilience was further supported when successes of Asian students were examined, with similar results resonating across Western culture (Haibin, 2017). Resilience, and the perceived views that students hold in their abilities to learn and value within a societal context, was a heavy factor in academic success. Chinese students who perceived themselves as capable were much more likely to find success than their counterparts who perceived themselves as less than capable. Individuals who viewed adversity and struggle as a routine part of the academic achievement process were more likely to be successful. This brings societal effect in Western culture into focus, especially in regard to minority students.

This study will build on research that has proved effective in higher education but has yet to be observed and studied in a corrections education arena. Perceived self-efficacy differences within individuals have been shown to be better predictors of success than previous achievements or ability. Perceived self-efficacy and resilience characteristics are particularly

important when individuals are faced with adversity (Cassidy, 2016). In recent years, psychology has evolved from Bandura's original Social Cognitive Theory towards a Positive Psychology approach championed by Martin Seligman. Resilience is considered a valuable trait that will allow individuals to succeed when dealt with adversity. Cassidy, (2016) observed that students, including those with lower self-efficacy, are aware of positive adaptive responses and have the potential to exhibit greater resilience than previously believed. Academic resilience has been proven to be an indicator of success in varying levels of education, including in adults enrolled in higher education. The results of a research study by DeRozier, Frank, Schwartz and Leary, (2013) indicate that college freshman often engage in maladaptive behaviors when faced with stressors. Students with greater resilience were better able to cope with the stressors associated with college and were shown to possess higher levels of self-esteem. Resilience was shown to promote positive mental and emotional well-being for the college freshman in the study. The role that academic resiliency plays in corrections education should be examined closely. It is very possible that resiliency plays a very similar role in corrections education as it does in other educational arenas. Observing levels of academic resilience in a corrections education high school equivalency program can provide insight into why some students are able to persevere and successfully complete a program while others are not successful.

Research Questions

Positive psychology and resilience improvement techniques should be utilized as a tool to promote positive mental and emotional well-being for inmate students. Corrections education administrators should examine the levels of academic resiliency in an effort to determine if inmate students who possess higher levels of resiliency are better adapted to cope with stress and maintain higher levels of self-esteem similar in ways found to be true in college freshman and

nursing students. The key to increasing low corrections education graduation rates may be directly tied to the levels of academic resilience that inmate students possess and demonstrate.

RQ1: Is there a difference between academic resiliency scores of corrections education students who successfully complete a high school equivalency program while incarcerated and corrections education students who do not successfully complete a high school equivalency program in which they were enrolled in while incarcerated?

RQ2: Is there a relationship between academic resiliency scores of corrections education students and corrections education student's age?

Definitions

1. *Learned Helplessness* - a person's belief that they have no control over their situation or circumstance (Seligman, 2018)
2. *Maladaptive Behaviors* - A type of behavior that inhibits a person's ability to adjust to a certain situation. (Seligman, 2018)
3. *Perceived Self-Efficacy* - a person's belief in their ability to succeed at a task. (Bandura, 1998)
4. *Recidivism* - recidivism in corrections is referring to when individual returns to jail or find themselves incarcerated after getting released. Low, King, & Foster- Boucher, 2019)
5. *Resilience* - one's ability to persevere or maintain during adverse situations. (Seligman, 2018)

CHAPTER TWO: LITERATURE REVIEW

Overview

The literature review section contains (1) theoretical Framework, (2) related Literature, and (3) summary sections. The theory is centered on Bandura's work relating to social and efficacy theory. The related literature discusses ways resiliency factors into human behavior. In addition, the following related literature details sources of self-efficacy, origins of philosophical resilience, evolution of resilience, and the link between self-efficacy and resiliency. A gap in the literature around resiliency and education in the prison system exists in the literature.

Theoretical Framework

The framework for this study will focus heavily on Albert Bandura's perceived self-efficacy theory due to the role that self-efficacy plays regarding resilience. In addition to Bandura's self-efficacy, the framework will touch on several social and psychological fields that play a role in one's ability to persevere and endure, including Carolyn Dweck's Growth Mindset and Martin Seligman's Positive Psychology.

Social cognitive theorists believe that environment, a person's behavior, and internal personal factors influence an individual's behavior (Henson, 2001). During the 1960s and 1970s, there was a resurgence of interest in self-beliefs by educators and psychologists to promote an emphasis on the importance of a healthy and positive self-esteem. Albert Bandura (1977, p. 193) argued that individuals create and develop self-perceptions of capability that become instrumental to the goals they pursue and to the control they exercise over their own behavior and environment. Bandura, (1998) further stated that people tend avoid situations in which they believe their capabilities are insufficient. If an individual felt they were able to succeed, they would actively participate. Bandura stated that this belief in perceived self-

efficacy was a source of intrinsic motivation. Bandura's theory suggests that self-efficacy may carry the most importance when an individual learner faces a new task, or when they feel they are likely to be successful. If self-efficacy is detrimental to attitude and belief in success towards a new task, what will allow an individual to persist long term. Other breakthroughs on longer-term behaviors towards learning have evolved since Bandura's original groundwork Social Cognitive Theory. Carolyn Dweck, (2006) developed a similar, but slightly different social cognitive theory, which she described as Mindset.

Dweck's Mindset is a self-theory that an individual is likely to succeed and stay motivated towards a task when they can alter their achievements through an ability to perceive their intelligence as an asset that can be improved (Dweck, 2006). Dweck believed that individuals have two types of mindsets, a "fixed mindset" or a "growth mindset." The way one views their ability to learn and succeed, according to Dweck, (2006), will ultimately influence an individual's level of motivation. A fixed mindset will lead to fear of making mistakes. Fixed mindset individuals often exhibit low-effort, low motivation, and low achievement (Dweck, 2006). Self-efficacy and mindset affect an individual's willingness and motivation towards a task, especially at younger ages when an individual's attitude is malleable. Corrections education is an adult educated driven field. Individuals who have failed to obtain a high school diploma have often already developed hard viewpoints on their own abilities to succeed. The question becomes less of how easily influenced they are, but rather how willing are they to remain persistent and resilient towards the task. Self-efficacy, mindset, and resilience are not a static cause and effect relationship. Research, (Dweck, 2006; Cassidy, 2015; Bandura, 1997), has suggested that self-efficacy, mindset, and resilience are fluid. Hamill, (2003) reported self-efficacy as an important characteristic of resilient students. Mindset, whether fixed or growth,

will affect a student's interpretation of their academic abilities. Students with a fixed mindset will view academic shortcomings because of being "dumb." Thinking in this manner compromises resilience in an academic setting (Blackwell, Trzseniewski, & Dweck, 2007).

Self-Efficacy

Perceived self-efficacy is an individual's belief that they have levels of control over their ability to exercise influence over events that effect their lives. Self-efficacy beliefs determine how people feel, think, motivate themselves, and behave. A strong sense of efficacy enhances human accomplishment and personal well-being in many ways (Bandura, 1998).

According to Bandura's social cognitive theory, self-efficacy beliefs influence the choices people make and the courses of action they pursue. Efficacy beliefs also help determine how much effort people will expend on an activity, how long they will persevere when confronting obstacles, and how resilient they will be in the face of adverse situations (Pajares and Schunk, 2001). Examining the importance of efficacy further escalates when examined for students who have previously failed along their educational journey. Pajares and Shunk (2001), found that students who doubt their learning capabilities are less likely to work hard, participate more readily, achieve at high levels, or persist in difficult situations. Self-efficacy makes a difference in how people feel, think, and act. Research has further indicated that low self-efficacy can cause feelings of depression, anxiety, and overall feelings of helplessness (Schwarzer, 2014). Self-efficacy beliefs, when viewed from a negative lens of helplessness, govern an individual's attitude toward their choices, and whether that individual will persist until they are successful. Self-efficacy beliefs influence academic motivation, levels or willingness to exert effort, persistence, and emotional reactions to successes and failures. Students with high academic perceived self-efficacy tend to participate more actively, persevere through

assignments, and exhibit fewer emotional frustrations or negative feelings when faced with unsuccessful outcomes than students who had lower perceived self-efficacy (Zimmerman, 2000).

In contrast, people who doubt their capabilities shy away from difficult tasks they view as personal threats. They dwell on their personal deficiencies when faced with difficult tasks. They slack on effort and give up quickly in the face of difficulties. People who doubt their abilities often fall victim to stress and depression. Individuals with low perceived self-efficacy are less likely, if likely at all, to possess traits and characteristics considered resilient.

Confident individuals approach difficult tasks as challenges to be mastered rather than as threats to be avoided. They have greater interest and deep engrossment in activities, set themselves challenging goals, and maintain a strong commitment to them. Individuals who are involved, or actively participating in a task or challenging event, have shown increased levels of efficacy, resulting in greater satisfaction with their lives and their abilities to deal with stresses. The phenomenon that Bandura is describing aligns closely with more current literature that stresses the importance of living a life fulfilled, and with purpose. This will be discussed in further detail, but it is important to begin to understand the role that self-efficacy, or belief in one's ability, will have on an individual's willingness to be resilient. Eric Greitens, a former Navy Seal and Rhodes Scholar, who earned a Ph. D. from Oxford, shares the lessons he has learned through his studies and experiences. Greitens, (2015) explains the way that living a fulfilling life with purpose cannot be absent of resilience.

> We all need resilience to live a fulfilling life. With resilience, you'll be more prepared to take on challenges, to develop your talents, skills, and abilities so that you can live with more purpose and more joy (p. 7).

Greitens' insight on living with purpose and the willingness to take on challenges is much in alignment with how Bandura perceived individual's ability and willingness to take on difficult tasks through self-efficacy beliefs.

Self-Efficacy in the Prison System

The prison system is an extremely stressful and strenuous experience for many inmates. Inmates are separated from family and friends, and for many, it is a negative life experience. Many in the prison system feel that they have little control or influence over life events. The need for inmates to improve their outlook and to feel a sense of worth and control is extremely important.

Inmates incarcerated at a Pennsylvania Department of Corrections facility participated in a pilot study. The study examined self-efficacy through Bandura's social cognitive theory. The study found that inmates with greater self-efficacy participated more frequently in health-promoting behaviors (Loeb, 2003). Self-efficacy beliefs, in some capacity, can be directly linked to an inmate's willingness to participate in a prison activity or program. The willingness of an inmate to exert effort, or actively participate is important as we begin to examine levels of motivation, helplessness, and belief that one can achieve success in an environment that they have otherwise not have found success in.

For many students, corrections education may be the first time they find success. This may be especially true when considering the proportionally large population of PA DOC inmate students who fail to read or write at or above the 8th grade level, let alone students who have earned a high school equivalency diploma (Delivery of Services, 2011). Incarcerated individuals are less educated when compared with the general population. Nearly 90% of the general

population, 25 years old or older, have a high school diploma or GED as compared to only 59% of individuals incarcerated in a federal or state prison (Drake & Fumia, 2017).

Many students have a negative view of education, particularly from past failures throughout their own educational histories. This negative view has created negative self-concept and negative efficacy. Many inmates have a view that they will fail because they have failed in the past. Self-beliefs must be inferred from past attainments in situations perceived as similar to the new one (Pajares and Schunk, 2001, as cited by Schunk, 1981). An individual's feelings of their own ability must improve in order to succeed at new tasks. Bandura argues, and others widely accept, that success in education will lead to increased self-efficacy (Pajares & Graham, 1999; Pajares & Kranzler, 1995; Schoenfelder & Urdan, 2006).

Influencing Factors for Self-Efficacy

People's beliefs about their self-efficacy can be developed by four main sources of influence: mastery experience, experiences provided by social models, social persuasion, and by reducing stress reactions by altering negative emotional and physical states (Bandura, 1994). The most effective way of creating a strong sense of efficacy is through mastery experiences. Successes build a belief in one's personal efficacy. Failures undermine it, especially if failures occur before a sense of efficacy is firmly established (Bandura, 1994).

The second way of creating and strengthening self-beliefs of efficacy is through the vicarious experiences provided by social models. Seeing people similar to oneself succeed by sustained effort raises observer's beliefs that they too possess the capabilities to master comparable activities required to succeed (Bandura, 1994). Inmate students may have failed in the past; they may also not have felt equal to their peers, whether because of socioeconomic status or race, but observing the success of others in the prison system may lead to an increase in

self-efficacy beliefs and a willingness to persevere in tasks. In prison, there is no separation of equality; an inmate is an inmate, regardless of past failures or mistakes. All should be viewed as equals through the eyes of peers and staff. This model of inclusion, and the social model of observing others succeed through desire and effort will create positive efficacy and lead to the development of a characteristic that can create a more resilient student population (Hamill, 2003).

The third way of strengthening people's beliefs that they will have what it takes to succeed is through social persuasion. Social persuasion can be acquired through encouraging words from either peers or teachers. This is an important step to overcome negative perceptions and overcome past failures.

The fourth way of modifying self-beliefs of efficacy is to reduce people's stress reactions and alter their negative emotional and physical states (Bandura, 1994). It is not the sheer intensity of emotional and physical reactions that are important, but rather how they are perceived and interpreted. Inmates develop their sense of self-efficacy through the same four sources of those in the general population. Unfortunately, because of the negative experiences of each of Bandura's four sources of improving self-efficacy, inmate students are more at risk compared to the general population. Bandura's fourth way of improving self-efficacy and modifying beliefs will also play an integral role as we move forward. It is true that some folks view their failures and shortcomings as a reason for not finding future success. Bandura's view of self-efficacy through stress reactions are dependent on an individual's perceptions, exposure to trauma, and amounts of trauma. Perceptions and our views are closely aligned with mindset. Fixed and growth mindset concepts will be further developed in the following section.

Mindset and Implicit Theories of Intelligence

Carolyn Dweck, a Stanford psychologist, took interest in Bandura's Social Cognitive Theory and based on her understandings, developed her own theories on motivation and achievement. Dweck originally sought out to determine whether work ethic and effort mattered. She originally believed that individuals were either intelligent, or they were not. Dweck's research evolved to state that individuals possess one of two mindsets, a fixed or a growth mindset. In Dweck's estimation, (2006) individuals can have a fixed mindset, whereas they believe that failures and success are the result of intelligence.

The other mindset labeled by Dweck is a mindset in which individuals believe that intelligence can be built on and improved upon. Dweck labeled this belief of mindset as a growth mindset (Dweck, 2006). According to Goldstein, Brooks, and DeVries, (2013) mindsets are assumptions and expectations we have for others and ourselves. Dweck (2006) argues that individuals who have limited intelligence are often skeptical to try to learn new things and struggle to persevere when faced with difficult tasks. These types of individuals, in Dweck's estimate, will view failure as a threat. A limited intelligence person will be quick to prove their ability. They will constantly view challenges as being right or wrong (Dweck, 2006). Dweck believed that many students are trained in this mindset from an early age. In her book *Mindset*, (2006) she said:

> some of us are trained in this mindset. Even as a child I was focused on being smart, but the fixed mindset was really stamped in by Mrs. Wilson, my sixth-grade teacher (p. 6).

Dweck describes her experiences. She believed, at the time, that her success or failure in grade school, led to a belief that she was either intelligent, or she was not. If she did well on a test, it

was because she was intelligent. If she failed to get a good grade, it was because she was unintelligent. This experience may be similar to many inmate students who have experienced negative educational experiences.

Dweck, (2006) said that her views on success were confirmed when "we were seated around the room in IQ order, and only the highest IQ students could be trusted to carry the flag, clap the erasers, or take a note to the principal" (Dweck, 2006, p 6.). Dweck's experience, and her understanding of Bandura's Social Cognitive Theory, became the basis for her work on self-theories, more commonly known as "Mindset" (Dweck, 1986).

An alternative viewpoint on intelligence theories, one in which Dweck's Mindset theory fits into is the study of Implicit Theories of Intelligence (Costa & Faria, 2018). Mindset research is more common, recently garnering national attention as a possible way to bolster student performance. Mindset programs have received millions of dollars in funding and research, including by the Bill and Melinda Gates Foundation (Sisk et al, 2018). Implicit theories of intelligence are similar to Dweck's viewpoints on Mindset. A fixed mindset, or the entity theory of intelligence, believes that intelligence cannot be built upon. The entity theorist believes that an individual is either intelligent or born with the ability, or they are not. An incremental theorist aligns with Dweck's belief on Growth Mindset. Incremental intelligence individuals believe that characteristics can change with effort and through time by employing strategies to improve their abilities (Dweck, 2006).

Rattan, Savani, Chugh and Dweck (2015) stated that mindset plays a role in academic achievement. Mindset is also argued to be more beneficial towards students who are low socioeconomic status or students who are deemed at-risk (Claro, Paunesku, & Dweck, 2016). It is also important to note that mindset and malleable beliefs that an individual can grow and build

upon their abilities is most effective in adolescence but can still be improved upon in adults. The human brain does not stop growing when an individual reaches adulthood. The human brain is constantly evolving and impressionable.

Recent research has provided mixed results on whether mindset alone attributes to academic achievement (Sisk et al, 2018). A study of two meta-analysis examining growth mindset and academic achievement yielded small effects. The meta-analyses demonstrated only a weak relationship between mindsets and academic achievement. Low socio-economic status and high-risk students who were examined within the meta-analysis proved a greater effect and supported the hypothesis that mindset would affect academic achievement (Sisk et al, 2018). The effect between mindset and academic achievement is small, but more significant when looked at in the context of at risk-students and students who experienced low socioeconomic status. More importantly, the greatest link between mindset and success occurs through the motivation that mindset creates for learners who have what would be considered a growth-mindset. Mindset and incremental theorist beliefs of intelligence align more with the belief that mindset plays a role in changing attitudes and perceptions, leading to increases in student motivation. Effectiveness is increased when mindset interventions are combined with other interventions. Sisk et al, (2018) suggested that other potential moderators, other than mindset, might provide a greater link in identifying which attributes lead to academic achievement. An area that takes into effect the levels of motivation created through growth mindset and builds upon the successes of perceived self-efficacy is academic resilience. The results of the most recent studies on mindset and academic achievement do not support a large effect on academic achievement, but rather mindset is more of a cog in the resilience cycle (Sisk et al, 2018). This information is vital when combined with a meta-analysis conducted by Pajares and Urdan, (2006), examining the

relationship between self-efficacy and achievement. Pajares and Urdan examined more than 3,000 articles concerning the concept of self-efficacy. The research determined that self-efficacy explains approximately 25% of the variance in predicting academic performance.

Mindset and social cognitive theory undoubtedly play a role in academic success, but many are beginning to move towards resilience as a more determining factor. We have already established that intelligence is not the ultimate determining factor in how successful an individual can be (Dweck, 2006). Self-efficacy and esteem play a role, but more than the way a person views their abilities, we argue that it is an individual's ability to remain optimistic and determined in the face of adversity (Sisk et al, 2018). Is resilience the determining factor to success in the classroom? Can academic resilience be a determining factor in corrections education? The determining factor may very well be resilience.

This may best be summarized by a single quote from a top-level business executive who participated in resilience research published in Harvard Business Review, by Diane L. Coutou. Coutou (2002) wrote on the role of success and resilience in this way:

> More than education, more than experience, more than training, a person's level of resilience will determine who succeeds and who fails. That's true in the cancer ward, it's true in the Olympics, and it's true in the boardroom (p. 47).

Related Literature

Resilience Defined

Resilience in humanistic and social terms is different from the idea of resilience in a physical science setting. In the physical sense, materials and objects that are able to bend or flex and return to their original shape are considered to be resilient. Resilience from a purely physical view is much in alignment with a balloon or a rubber band. People often think of bouncing back

when they think of the word resilience (Greitens, 2015). Isaac Newton created the first discussions of physical resilience in 1687 when he published his original works on physics and mathematics (Smith, 2007). Although, the origins of a resilient mindset can arguably be traced back to Aristotle, Cato, and other Greek philosophers who practiced a lifestyle and mindset that we now call Stoicism. Newton described the fundamental laws of the universe, including the laws of physics that have created our views of physical resilience. According to Greitens, (2015) Newton did more than just create resilience in the physical sense. Isaac Newton also laid the foundations of a problem that psychologists and sociologists are still attempting to navigate over 300 years later. Newton's logically published views created a reaction in which everyone wanted their thinking to be logical, precise, and clear. The common view at the time was that if laws could be defined to explain the orbits of the planets, then laws had to be written and defined to explain the human mind and human actions. The problem, as educational researchers are aware of, is the human mind, and life in general, are not as black and white as Newtonian physics (Greitens, 2015).

This influence is still relevant and the differences between physical resilience and social/psychological resilience must be understood in order to move past limitations and narrow thinking. One such definition that still focuses on the physical sense of resilience, and limits current views, can be found in the Merriam Webster dictionary. Merriam Webster defines resilience as the "capability of a strained body to recover its size and shape after deformation, especially if the strain is caused by compressive stresses" (Resilience, n.d.). Resilience in this form is similar to elasticity. Elasticity as defined in Merriam Webster is the "capability of a strained body to recover its size and shape after deformation" (Elasticity, n.d). Merriam Webster actually shows resilience as an alternative definition to elasticity. Resilience as elasticity is a

physics definition (Greitens, 2015, p. 22). Viewing resilience strictly through the lens of a physicist limits our ability to understand resilience. Resilience as a way to recover, or bounce back, is limiting in that it does not take into account that human beings cannot bounce back. Unlike inanimate objects or physical matter, humans never stand still or come to rest. Human beings cannot go back to the person they were in time prior to an event occurring. Resilience viewed strictly through physics fails to understand basic human capacity to change and improve (Greitens, 2015). This limited mindset of bouncing back or being the person that we were before we faced adversity, hardship, or trauma leads to sloppy and narrow-minded thinking. This limited viewpoint is further examined through first understanding the physical limitations of resilience as it relates to education and human experiences. Physical objects in our lives come to rest when presented with or overcome by friction. Greitens (2015) provides a great example of how physics differ from human minds. For example, a cue ball in billiards struck with a cue stick, or a golf ball struck with a putter are physical examples of objects in motion. No matter how hard we strike the ball, it will eventually come to rest. It is tempting for human beings to think of ourselves in the same manner, objects that eventually come to rest. Human beings, when at rest, or without adversity, can lead to a mindset that is misunderstood and limited. According to Greitens, (2015) when we are not at rest, when we are struggling, agitated, or anxious, we often think that something must be wrong. If a human has breath, there is no state of rest. Psychological and social resilience can never be fully understood through the physical sense. Children grow as they sleep. Our bodies are full of millions of microscopic cells and living organisms that live and die every day. Our bodies, our communities, and our lives are in constant motion (Greitens, 2015). We cannot bounce back to the person that we once were. The parent who loses a child will never be the person they were previously. The child who grows up

witnessing daily violence or the incarcerated inmate will never be who they once were. They will never simply bounce back. Individuals who face trauma and adversities must use their struggles in a manner that changes their trajectory. Human beings are not as neat and clean as the laws of physics; therefore, resilience in people must be examined through a different lens.

Human Resilience

Experts define resilience in a variety of ways, but a common thread throughout varying definitions is the ability to weather adversity (Southwick et al, 2014). Resilience is often first thought of through a physics definition. The same Merriam Webster dictionary discussed earlier gives an alternative definition of resilience that addresses resilience through a human lens. Merriam Webster states that resilience is also "an ability to recover from or adjust from adversity or change" (Resilience, n.d). The American Psychological Association (APA) defines resilience as "the process of adapting well in the face of adversity, trauma, tragedy, threats, and even significant sources of stress – such as family and relationship problems, serious health problems, or workplace and financial stresses" (American Psychological Association Help Center, n.d). The APA makes no mention of bouncing back, but rather the emphasis on this definition is on adaptation. Harvard University psychologist George Vaillant, (2007) describes resilient people as resembling a twig, with a fresh green living core. When twisted out of shape, a living twig can bend, but does not break. The twig springs back and continues to grow (Valliant, 2007). Resilience cannot ever be neat or highly logical. Resilience is complex, multidimensional, and dynamic in nature (Southwick & Charney, 2018).

Resilience as a Field of Study

Developmental psychology began to gain traction as a scientific discipline beginning in the 1970s. Researchers began to question the previous views and frameworks of maladaptation in

children and adolescents. In decades that followed the initial examination of developmental psychology, researchers in clinical psychology and child development began to provide information explaining the phenomenon of resilience. Resilience as a phenomenon was gaining shape on the heels of Bandura's Social Cognitive Theory. Diverse populations were studied, including at risk populations, to further understand resilience (Rolf, Masten, Cicchetti, Nuecheterlein, & Weintraub, 1990). The at-risk populations were further divided to study individuals who experienced violence, drug addiction, and individuals who lived in poverty (Garmezy, 1991).

The origins of resilience research are important for the considerations of this study, because areas of focus in resilience research are common and representative of a large portion of an incarcerated prison population. Prison populations are much more likely to have been deemed at-risk, to have lived in poverty, been exposed to family violence, or have been addicted to violence as compared to the general population (Drake & Fumia, 2017).

Wang et al, (1993) believes that developmental psychology and resilience as a construct began to turn when researchers used the results of students from studies of at-risk children who were able to overcome the odds and succeed. Examining the results of why some students are succeeding while others are not, shifts focus away from victimization and helplessness. Examining students who find success despite their pasts may assist in identifying a pathway to overcome trauma and negative experiences and succeed in the face of adversity.

A desire to further understand factors that enable individuals to adapt and overcome challenges in development and learning resulted in a new field of study. According to Wang et al, (1993) the construct of resilience emerged. Resilience research evolved even further when researchers began to gain a greater understanding of risk factors. Garmzey, (1991) highlighted

that many at-risk children in high-risk circumstances of developing psychological related illnesses were developing illnesses, but a larger percentage did not develop disorders and became healthy adults.

Similar discoveries also led to Martin Seligman's development of positive psychology. Seligman originally focused his studies on illness and trauma. Seligman later evolved to a point where he was interested in understanding what made some individuals succeed in spite of their circumstances (Seligman, 2018).

During the past twenty years, researchers began to move away from the illness or the overall group and began to question the role of the individual in success. The active role of the individual is now determined to be a major identifier (Rutter, 1990). An individual's response to stressful situations and view of how they respond to that situation plays an important role on how successful an individual will be in pursuing goals and overcoming setbacks (Dweck, 2006). Garmzey, (1991) drew parallels between resilient children and the constructs in which they possessed. He reported that successful and resilient children are characterized with constructs such as self-efficacy and having a locus of control. Garmzey was identifying the link and cycle between perceived self-efficacy, growth mindset, and resilience. Resilient children were observed to perceive experiences constructively and have a clear sense of purpose in controlling their fate (Wang et al, 1993). The views of Garmzey, (1991) and Wang et al, (1993) later became characteristics of successful individuals when viewed through the construct of implicit theories of intelligence and Dweck's Growth Mindset.

The original construct of resilient characteristics has also evolved to take shape in the research of positive psychologists such as Martin Seligman. Seligman discovered that resilient children rarely show the passive behaviors that are associated with learned helplessness.

Seligman has published research that discusses the values necessary for a successful life. He does not address resiliency directly, but he discusses many of the characteristics that successful individuals possess. Seligman discusses the characteristics and attributes needed to flourish. He is describing a resilient individual (Seligman, 2016).

Seligman is also credited with creating an important concept that plays a role in partially explaining why some individuals succeed despite their past, while others cannot seem to get out of their own way. Seligman, along with colleagues Steve Maier and Bruce Overmier discovered a concept they called learned helplessness in the 1960s. Learned helplessness research is especially worth noting to corrections education professionals who must consider the social and psychological aspects of the school-to-prison pipeline.

The school-to-prison pipeline explains ways in which black and brown students are predominantly statistically overrepresented in the failings of public education to steer minority students from the path of incarceration and involvement in the juvenile justice system (McCarter et al, 2019). According to the authors, brown and black students, as well as students, considered low-socioeconomic status, were much more likely to be receive an out-of-school suspension, an in-school suspension, or receive a felony arrest record than other students, predominantly Caucasian and students considered higher socio-economic status (McCarter et al, 2019). The make-up of the students failed in the public education system are strikingly similar to the make-up of the dynamics of incarcerated adults. Black and brown inmates represent a predominantly higher percentage of inmates as compare to the overall numbers of black and brown individuals within society. In other words, black and brown individuals become incarcerated at higher rates than other individuals do.

Seligman and his colleagues initially studied dogs. Seligman and his colleagues found that animals became passive and gave up in the face of adversity once they had first experienced difficult events that they could do nothing about. The animals were provided with a mildly painful shot. Animals were provided with either an escape option or no escape option after the shock. Animals who were not provided an option to escape after the mild shock became passive and lied in their cage waiting for the shock. The animals accepted the shock, took the shock, and accepted it as their fate. Animals who provided an escape route did not become helpless. Learned helplessness was later tested on human subjects. Subjects were exposed to a non-damaging event such as a loud noise that would make them uncomfortable. Other subjects were exposed to the same noise but provided with a button that would turn the noise off. Similar to the animals, the majority of individuals without an option became passive and accepted the event. The majority of subjects without an option to escape the noise became helpless, but some did not. Some continued to persevere. Seligman and his colleagues found that the individuals who did not become helpless interpreted the events differently than those who became helpless. Seligman found that people who believe that events and setbacks in their lives were temporary and changeable do not become helpless. Individuals in the study who viewed the noise as something that will go away or something that they have control over bounce back from setbacks. Individuals, who believe that the setback will last forever, or that it may undermine everything, become helpless (Seligman, 2018). As mentioned earlier Seligman and his views on learned helplessness are discussing the qualities and factors of a resilient individual. Learned helplessness or feeling that one is a victim in an event is a person who lacks resiliency.

Dr. Edith Eva Eger explained a similar phenomenon through her experiences as a survivor of Auschwitz. Both Eger and Victor Frankl discussed learned helplessness behaviors

that they witnessed firsthand at Auschwitz. Frankl and Eger were survivors of Auschwitz and both went on to become psychologists. Eger believes that when individuals feel they have no control over their circumstances or that they cannot alleviate their suffering, they stop acting on their own halves because individuals do not feel there is a point (Eger, 2018). Eger, Frankl, and Seligman were all psychologists ahead of their time and ones who have made great contributions. Each of these individuals provided factors and aspects of resilience. Whether in low-income settings, minority and poverty ridden neighborhoods, or in the lives of the few who were able to survive Auschwitz, a determining factor in ultimately succeeding is the ability to be resilient.

Evolution of Resilience

Resilience remains an interest to researchers and remains a construct defined by the ability to be competent in the face of significant adversity, but the study of resilience is not without criticism (Hamill, 2016). Criticisms have sprung up on the usefulness of studying resilience. Criticisms were aimed towards the focus that resilience is too broad of a subject or that it is too dynamic a process in which researchers are unable to specifically study validity and what constitutes a resilient individual (Hamill, 2016). Fortunately, Simon Cassidy, (2016) recently developed a construct that has proven to be both reliable and valid in examining academic resiliency. This scale is discussed in more detail at a later point, but it is important to understand that criticism of resilience as a concept that is unable to be studied due to reliability and validity is no longer a barrier.

Early criticism focused on a held belief that invulnerability to stress was an inherent trait in resilient children. Recent researchers have debunked early theories that resilience was solely inherited through genetics, although genetics do play a role. Southwick and Charney (2018) state

that resilience is far more than a simple psychological trait or biological phenomenon. Resilience is a learned and applied behavior.

Human physiology, genetics, epigenetics, and neuroplasticity all play a role in resilience. Resilience is best examined through a viewpoint that much of how resilient we are is dependent on how we view our struggles in life and the perceived levels of control our minds have in the way that we approach our struggles. This view further debunks criticisms of resilience as an inherited trait because the argument that individuals are born with a trait that allows them to be more adapt at overcoming adverse situations is not realistic. We are not born with a resilient gene, rather countless studies have proven that individuals who display higher levels of resilience have learned to cope and overcome despite the situations and circumstances they have been exposed to (Hamill, 2016; Southwick & Charney, 2018; Amstadter et al, 2014).

Genetics cannot be ruled out completely, but it also cannot be blamed for how resilient an individual is. A study by Amstadter et al (2014) examined resilience and response to stressful life events in twins. The researchers discovered that genes and environment events contributed to resilience responses. "Roughly half of the contribution of variation in level of resilience could be accounted for by events and actions taken by the individual that had an enduring effect" (Amstadter et al, 2014, p. 278). In other words, the ability to be resilient hinges not on a born trait or inherited factor, but it is a perception or belief developed and implemented by the individual who experiences events and adversities. Furthermore, mildly stressful experiences can have the effect of building resilience. According to Amstadter et al, (2014) mildly stressful experiences can build resilience similar to how physical exercise builds muscle and stamina.

Genetics are the traits that we are born with. Researchers have not completely ruled out genetics, but they have been able to verify that genetics only play a small role in how we

perceive difficulties and the ways in which we react. In recent years, researchers have improved their understanding of ways in which our environmental influences affect our genes through the study of Epigenetics (Soutwick & Charney, 2018). Internal and external events, such as social supports, stress, and fear can activate biochemical reactions in our bodies that then turn genes on or off. Epigenetics is an important factor when examining resilience because the process of turning genes on and off is dynamic and potentially reversible. Zhang et al, (2012) showed ways epigenetics affect our ability to be resilient through studies on rats. The research shows that if a mother rat provides only low levels of licking and grooming to her pups, actions and behavior considered the equivalent of neglectful parenting in the rat world; the minimally groomed pups will exhibit increased susceptibility to stress throughout their lives. Mothers who exhibited high levels of maternal care to their pups through routine licking produced pups that showed higher levels of stress resilience. Researchers believe that similar epigenetic effects and other lifetime experiences that lead to vulnerability or resilience are likely in humans (Nestler, 2012). Environment events such as stress, social interactions, and drug use can cause epigenetic changes in gene expression (Dudley, 2012). Social interactions, drug use, and stressful experiences are all highly likely events that were likely to have played a role in the lives of many incarcerated individuals. The understanding of genetics and epigenetics can help paint the overall picture of why individuals may react in ways they do when faced with long-term adversity or chronically stressful situations. Fortunately, for educators who wish to develop a greater understanding of why some individuals succeed, and for individuals who have found themselves in destructive external circumstances, all individuals still have the ability to choose their response, especially because an individual's response is not automated.

Resilient individuals understand that it is not what happens to them, but rather how they ultimately react to hardships. Resilience is the ability to endure hardships and become better because of it. Individuals who have experienced hardships and adversity have the choice to practice resilience becoming stronger because of their hardship (Greitens, 2015). The key to individuals being able to choose their response and choose to be resilient can be found in the science of neuroplasticity.

Neuroplasticity, according to Cramer et al, (2012) is an ability of the nervous system to respond to intrinsic or extrinsic stimuli by reorganizing its structure, function, and connections. Too many individuals believe their past trauma or past experiences determine who they will be for the rest of their lives. The brain is not an organ that remains unchanged during adulthood. Neuroscientists have found that our brain structures are always changing from moment to moment, day to day (Southwick & Charney, 2018).

Neuroplasticity research dating back to the 1990s found strong evidence of malleable changes in the brain among professional musicians and others with extensive music training (Munte et al, 2002). Elbert, (1995) found that professional players of string instruments had larger cortical representation in the digits of their left hand, the fingering hand, than was found in control subjects who had no musical training. The right hand, in professional string players, the hand that holds the bow, did not display cortical differences. The bow hand, which only holds the bow, never changed and evolved. Ruber et al, (2015) found difference in brain matter in the right hand of string players but found that brain matter that connects fibers were larger in both hands of keyboard players as compared to control groups without musical training. Even more astounding in the research is the greater number of years of musical training, the more pronounced the brain changes were in individuals. The brains studied in professional musicians

were providing evidence that what we practice becomes our habit, not only through our actions, but also through our brain matter and our brain fibers.

Neuroplasticity allows individuals to change the structure and function of their brain. Neuroplasticity is in many ways the closest that researchers and scientists have moved towards answering resilience in humans through the neatness of physics that Sir Isaac Newton was first able to articulate hundreds of years ago. Our ability to choose, to evolve rather than revolve, lies in our brain matters ability to be pliable and changeable. The structure of our brains is neither fixed nor static. Brain structure is always evolving. This is important to understand in the fact that an individual's life, their abilities, and their brains are never the cue ball struck by a cue stick. The human brain structure and the way in which we view the world, our place in it, and our abilities to succeed by overcoming and adapting is never stagnant. The brain is never the cue ball that will eventually come to a stop. Only when we are no longer able to function does our brain activity cease.

The human brain structure is not rigid; it is much like a muscle in the body. The brain can be strengthened or weakened, depending on how it is used. Research shows this to be true. Frankl discussed the brains ability to overcome and adapt in his writings (Frankl, 1980). Martin Seligman provided research and evidence that our brains and perceptions are constantly evolving through not only positive psychology, but also in his discussions on gratitude and living a grateful life (Seligman, 2016). The most renowned social psychologists have studied nuances and specific areas of human suffering and human triumph, but more than anything, what scholars and researchers have been studying and discussing are ways in which individuals can practice resilience to succeed, regardless of their circumstances. Well-known author Deepak Chopra, MD and Harvard University neuroscientist Rudolph Tanzi summed up the incredible effects of

neuroplasticity. "Neuroplasticity is better than mind over matter. It's mind turning into matter as your thoughts create new neuronal growth" (Chopra & Tanzi, 2012, p. 52). The mind grows, becoming more musical when a musician practices music. Neuroplasticity provides us with evidence that an individual can become more resilient by practicing resilience. Repeatedly activating specific areas of the brain can strengthen those areas. If an individual wants to become more resilient, than they must practice resilience through a specific style of thinking, emotion, and behavior that enables an individual to overcome trauma and stress.

The Self-Efficacy and Resilience Link

Bandura et al, (1999), highlight the argument that resilience building is a real possibility, and that resilience is a skill built upon through experiences, rather than a trait an individual is born with. Bandura and other Social Cognitive Theorists perceive individuals as proactive social agents who are able to adapt actively, rather than simply undergo experiences through environmental stressors that tend to further damage an individual's personal vulnerabilities. Self-efficacy beliefs are a mechanism for producing motivation to exercise control over events that affects one's life (Bandura, 1998).

This belief of learning to overcome, adapt, and build upon is not only in line with Bandura's perceived self-efficacy, but also Dweck's Growth Mindset. The cyclical notion that an individual must believe, learn through mistakes, and persevere in the face of adversity allows the constructs of all three differing areas of psychology be applied to the ways an individual succeeds.

Hamill, (2016) stated that those who believe in their ability to exert control over their thoughts are more likely to persevere in adverse situations. Bandura, (1986) described this same phenomenon as perceived self-efficacy. If an individual feels they are likely to succeed, they

will. In addition to the perceived belief alone, Bandura, (1986) discusses accompanying factors that lead to the ability to succeed through perceived self-efficacy. Individuals who are more self-efficacious are more likely to believe they will ultimately succeed and remain on task despite intermittent failure. Bandura even made the argument that individuals are able to modify and control their environments in an effort to put themselves in the best possible situation to succeed. Bandura et al (1999) argued that having a self-efficacious perspective promotes an ability in human beings that makes individuals capable of equipping themselves with personal resources that enable selection and structure of their environment. Individuals are able to use their perspective to cultivate resiliency and set a successful course for their lives.

The ability to adapt and deal with difficult situations will affect a person's ability to remain motivated academically and persevere in the face of difficulty. Amitay and Gumpel, (2013) specifically examined self-efficacy as a resilience factor among adjudicated children. The researchers built upon Bandura's vision of self-efficacy in their findings that accumulation of personal successes or failures, and vicarious learning experiences, are rooted in social factors. The experiences are therefore liable to changes from external sources. Self-efficacy in this manner not only builds resilience, but also becomes an enabling mechanism (Amitay & Gumpel, 2013).

Self-efficacy and resilience as an enabling mechanism to success may improve an individual's belief that they will succeed in a specific domain, even if they struggle in another. Self-efficacy as a resilience factor and enabling factor plays a role in corrections education. Regardless of previous experiences in academic settings, students can learn to control internal sources and utilize external circumstances to improve upon previous failures or shortcomings. Self-efficacy beliefs change over the course of one's life. Since self-efficacy is situationally

specific, beliefs in one domain, or at one point in time, may not affect beliefs in others (Bandura, 1998). It is important to be aware that some self-efficacy domains are easier to obtain for certain individuals. If an individual has physical or mechanical abilities, they will likely excel in academic situations in which they can utilize those abilities that are strengths. Amitay & Gumpel, (2013) argue that making individuals aware of the effects of self-efficacy may be useful as an intervention to increase resilience for at-risk populations.

Further links between resilience and ability to persevere using mindset are brought into focus when coping skills are examined. According to Hamill, (2016) successful coping skills and an ability to overcome adversity allows resilience to be the positive outcome of successful coping. Hamill (2016) discovered that resilient and competent adolescents displayed higher measures of self-efficacy, coping, and persistence than low malleable individuals did. Her research discovered that what distinguished those who were able to succeed versus those who were unable to succeed when faced with adverse situations was their levels of self-efficacy and resilience.

Resilience and mindset are interwoven in that perseverance for some individuals depends on their belief of their intelligence. The psychological response underlying an individual's ability to remain resilient towards academic challenges is a result of the underlying of implicit theories of intelligence (Dweck, 2006). Failure towards a task, if not examined through the correct implicit theory of intelligence, can lead an individual to believe they are dumb. This way of thinking will affect overall academic resilience and willingness to persevere.

Yeager and Dweck, (2012) argued that a student's mindset can be changed and doing so can promote resilience. They believe that not only does the presence of academic adversity determine an individual's outcomes, but also an individual's interpretations of those adversities.

Mindset, they determined, allows a person to show more resilience challenges (Yeager & Dweck, 2012). Mindset matters to resiliency because a student's belief of their intelligence may predict their academic performance over time. This is particularly true when the work becomes challenging or when the individual is faced with adversity. The belief that one can grow and improve creates a resilient viewpoint for long-term success. Blackwell et al, (2007) showed that an individual who possessed a mindset, which advocates for hard work and perseverance were more resilient, and earned higher grades, when confronted with a school challenge as did their counterparts who did not have a growth mindset. Mindset as a lone indicator, or construct, has produced varying results on academic achievement, with some research measures showing little to no significant differences (Sisk et al, 2018). Self-efficacy has also produced similar mixed results, although perceived self-efficacy has historically been a better indicator of academic success than other constructs (Wang et al, 1993). Resiliency traits have historically been a strong predictor of academic achievement.

Scales et al (2003) in a longitudinal study found that higher levels of resiliency traits strongly correlated with higher grade point averages. Inner-city studies targeting at-risk individuals and those who were more likely to live in poverty found similar results. Waxman and Huang (1993) examined inner-city students who ranked in the 90th percentile on standardized tests. These individuals displayed characteristics of resilience and were highly resilient as compared to their peers who ranked below the tenth percentile on the same standardized tests. A study of inner-city Hispanic students conducted by Reyes and Jaxon (1993) examined two groups of students who were determined to either be at a high or low risk of dropping out of school. The low risk students self-reported higher levels of resiliency than their high-risk counterparts did. Students who have shown to have higher levels of resilience

have shown to be more successful than their peers who failed to show resilience at a much more consistent rate (Cassidy, 2016).

Academic Resilience

Resilience is a construct that is observed in individuals. Individuals who have high levels of resiliency are said to be able to bounce back or overcome difficulties despite their past and the current adverse situations they face. The outlook, or the view in which an individual perceives their struggle, may ultimately lead to how likely they are to succeed. Original criticism of resilience was that the construct was too broad to pinpoint what leads to success. Resilience has since been transformed and narrowed to specific constructs. This was done similarly to the ways in which Bandura's self-efficacy beliefs have since been transformed to specific contexts. An individual can have varying levels of self-efficacy that are context specific. Perhaps someone has high levels of efficacy in a mechanical task but lack the perceived ability to excel in academics (Bandura, 1986). The same can be considered true for resiliency. An individual may believe they are resilient in the face of physical endeavors or believe they can overcome personal hardships. An individual's belief that they can succeed in an academic arena despite past failures is important. This specific construct has become known as academic resiliency. Academic resiliency is predominantly concerned with understanding how the relevance of academic specific resiliency characteristics effect academic achievement (Cassidy, 2016). Martin (2013) described academic resiliency as the capacity an individual must utilize and use to overcome the adversity that is perceived to be a threat to a student's educational development. Academic resilience is most concerned with understanding how an individual overcomes and adapts in academic specific settings. Persistence and overall belief that one can succeed, despite their

circumstances, continues to drive resilience researchers to ask why some individuals succeed while others fail.

Many students perform poorly, and many will continue to fail in turning their fortune of success around by continuing to perform poorly. However, some individual students who are facing many of the same risk factors and circumstances of those that continually fail manage to succeed, some even flourish. Which characteristic is most valuable in determining why some students flourish and others fail? Cassidy (2016) and Martin (2013) believe that the most important characteristic is academic resilience. For this reason, Cassidy has designed an academic specific resiliency scale that has been determined to be both valid and reliable (Cassidy, 2016). Academic resilience is the specific traits and characteristics that an individual who believes that they can succeed academically possesses, despite adversities or past experiences.

Resilience in Incarcerated Individuals

Resilience is common (Masten, 2011). Resilience can be witnessed daily. Resilience is all around us. Resilience has been witnessed through holocaust survivors, such as Dr. Edith Eva Eger and Victor Frankl. Each of whom overcame their trauma and post-traumatic stress to earn degrees in psychology. Resilience is also evident in the lives of everyday individuals who are overcoming their fears and dealing with adversities and battles that many individuals will never see. Millions of people exhibit resilience through their responses to challenging events and circumstances (Southwick & Charney, 2018).

For many individuals, they come to believe that stress is an enemy, something that must be avoided. Perhaps they fear that stress can never be overcome if they were forced to face large amounts of it. The truth is stress, when managed correctly, tends to lead to growth. Stress creates

a reaction that allows the mind and body to become stronger. To overcome learned helplessness and cycles of hopelessness, individuals must understand that life, unfortunately, is not fair.

It is undeniably true that opportunities are often more vastly available for some rather than others. The path to overcome is steeper for some than for others. Individuals with financial resources, higher levels of education, and social networks are able to leverage resources. People who lack resources may feel more helpless. Stevan Hobfoll, (2001) believes those who lack resources and continually find failure may find themselves in a loss spiral. Southwick & Charney (2018) describe the loss spiral and ways in which it effects an individual's ability to display resilience. The plight they describe is eerily similar to the stories that many incarcerated individuals have lived or experienced. A family under financial stress may lose their primary bread winner. A child who is misguided and living in poverty may lose their father figure. These events may lead to additional traumatic experiences, such as living in a high poverty high crime area. It is important to understand that overcoming events is easier for some. This is often times due to not what an individual was born with, but rather what is not being provided to them. Individuals often struggle because one external event may lead to further damaging circumstances. Edith Eger (2018) stated that stress is the bodies response to any demand to change. Our automatic responses are to fight or flee. Individuals who live in constant stress, who live in a state of distress, often lose their option to fight or flight. A constant and steady state of distress neither allows for fight or flight, but a reaction of barely being. Eger believes that individuals must learn to flow, to develop a way to look within. Eger states that individuals always have a choice. Eger believes that individuals can emerge from their pain and experiences. According to Eger, (2018) experiences are not a liability, but rather a gift. This outlook is incredibly important for inmate students who must use their experiences to practice resilience.

Inmate students, or students who have previously failed, often believe that they are broken. Greitens (2015) uses the expression of brokenness to explain the importance of resilience. Ernest Hemmingway said, "The world breaks everyone and afterward many are strong at the broken places" (Hemmingway, 1957). The line from Hemmingway does not state that everyone is strong, it states that many are strong afterwards. Not every individual is strong at the broken places. Being broken by itself does not make someone strong. Many people are broken, yet they are not strong. To be strong at the broken places means to be resilient (Greitens, 2015).

> Adversities and hardship in life can create a helpless person, or it can create a heroic one. Some are made strong by suffering and stress, others are defeated and become helpless. "The difference is resilience" (Greitens, p. 24, 2015).

Connecting it all Together

The important aspect to understand is that mindset alone, although beneficial, may not be the best long-term indicator of what will allow an individual to succeed despite their circumstance. Resilience, a construct that was reborn in the 1970s and recently evolved to become a specific construct, can be traced thousands of years. Resilience is also not rare or reserve for a select group of individuals (Southwick & Charney, 2018). Resilience is not an inherited trait, a gene that only a few are blessed with. Resilience is a virtue (Greitens, 2015, 27). A virtue is a concept that is discussed, but often misunderstood in our modern society. The word virtue when translated from English through Greek writing means arete. Arete is aligned with our current view of excellence. The Greek philosophers did not believe an individual should be excellent in one area of their life, but rather they should seek to be excellent in varying aspects. Excellence is not actually something that we have, but something that we seek to practice and employ (Greitens, 2015). Resilience is something that we must practice when we are faced with

difficult situations. Greitens, (2015) quoted sociologist and author of a book titled *Flow*, Mihaly Csikzzentmihalyi.

> Of all the virtues we can learn, no trait is more useful, more essential for survival, and more likely to improve the quality of life than the ability to transform adversity into an enjoyable challenge." (Greitens, 2015, 8)

Greitens (2015) goes on to state, the difference between those who are broken by pain and those that are made wiser by it, is resilience (p.8).

Resilience, specifically academic resilience, is an important factor and indicator to be studied. This is even more important when examined through the evolution of resiliency, and the way in which resiliency has morphed into the specific construct of academic resiliency. Resiliency has taken into effect troubling concepts such as learned helplessness and phenomena of at-risk individuals who succeed despite their pasts (Seligman, 2016).

The prison system possesses a large percentage of individuals who have failed or have been deemed at-risk as adolescents. Corrections education is tasked with educating a predominantly high-risk population that is much less educated than the general population. Unfortunately, a collection of individuals who demonstrated aggressive or delinquent behaviors often end up in an environment together, it is called the prison system. Corrections education is tasked with producing solutions to educating incarcerated individuals, despite of their past experiences. The greatest indicator of what will allow individuals to succeed may partially lie in their belief systems and their perceptions of how likely they are to succeed. The prominent characteristic within an adult population that has experienced failure, and continues to find themselves in adverse situations, may be their ability to remain resilient, especially their belief that they have control of their academic futures by displaying higher levels of academic

resiliency. Student shown to have higher levels of academic resilience and students who possess resiliency measures have shown to be consistently more successful academically than their peers who have reported lower levels of resilience (Cassidy, 2016).

Summary

Academic resilience is the capacity an individual must put forth to overcome adversity that would be perceived to be a threat to a student's ability to succeed academically (Martin, 2013). To fully understand academic resilience, it is essential to understand the underlying and background issues of motivation, behavior, and self-efficacy. Self-efficacy beliefs determine how people feel, think, motivate, and oftentimes, behave. Self-efficacy and mindset influence the choices people make and the courses of action they pursue when facing adversity. Efficacy and mindset beliefs also play a role in how much effort an individual will put forth and how long they will persevere when confronted with obstacles. Individuals with low-self efficacy beliefs are less likely to possess traits that would be considered characteristics of resilience. Mindset also plays a role in changing attitudes and perceptions. Those with positive attitudes display increased motivation and willingness to persevere, even when faced with challenging or difficult times. An individual's willingness to stand strong in the face of adversity and to overcome difficulty is a characteristic that embodies resilience.

Resilience is not an inherited genetic trait, rather it is a behavior that is often learned, and it can be improved upon. The brain, and the way we perceive difficulties, is neither static nor is can it ever be unchanged. Rather the opposite. Our perceptions are always evolving. Individuals can actively take responsibility for their actions, including the ways in which they perceive difficulties and the amount of resilience they are willing to display when faced with adversity. Self-efficacious behaviors and mindset play a pivotal role in the amount of effort,

willingness to persevere, and overall ability to endure and overcome difficulties. The amount of effort and willing to persevere academically may provide insights into whether students succeed or fail.

CHAPTER 3: METHODS

Overview

This chapter provided a method to study the effect of resiliency on successful completion of a high school equivalency program, the relationship between student age and successful completion of a high school equivalency program, and the relationship between student age and resiliency. The study utilized a causal-comparative design to examine academic resilience in a population of inmate students. This chapter will provide details on the study design, research questions, null hypotheses, participants/settings, instrumentation, procedures, and data analysis.

Design

The research design is quantitative causal-comparative and correlation study. This study provided opportunities to examine the role that academic resilience plays in corrections education. This quantitative study surveyed inmate students who were either enrolled in academic classes previously while incarcerated or were actively enrolled in and participating in academic classes in pursuit of a high school equivalency certification while incarcerated to determine if levels of academic resiliency effect completion success of high school equivalency programs for inmate students. This research design was non-experimental in nature because the variables examined were not manipulated by the researcher.

According to Gall, Gall, & Borg, (2007) the initial step in a causal comparative study is to speculate about a cause and effect phenomenon. The cause/effect relationship being examined will be academic resiliency. Gall et al, (2007), state that causal-comparative research is appropriate when an investigation seeks to discover possible causes and effects of personal characteristics. In the case of this specific study, the individual characteristic examined was

academic resiliency. The independent variable was program completion once enrolled in an academic class while incarcerated, and the dependent variable was level of academic resilience.

The second research question examined the relationship between corrections student's age and resiliency. This relationship was studied by examining the correlation between the two factors. Correlation does not suggest cause and effect but rather the relationship between two factors. The two variables being analyzed were program completion and age.

For the purpose of this study, student completion success was considered a successful completion of a high school equivalency standard in Pennsylvania while enrolled in a corrections education program as compared to students who did not complete the coursework.

This study compared data collected from individuals that successfully completed a high school equivalency program while incarcerated and compared the results to data obtained from individuals enrolled in a high school equivalency program while incarcerated but failed to successfully complete the program. The data created from administering the ARS-30 was primary data constructed firsthand by utilizing an already existing database that was sorted in order to identify a possible population of participants. Inmate students were not selected and tracked over a period of months or weeks to determine academic resiliency, rather the researcher sought to identify academic resilience levels already possessed by inmate students at the time that they complete the ARS-30 questionnaire. The researcher utilized existing databases to discover a population of students who had successfully completed a high school equivalency program while incarcerated and inmate students who were previously enrolled in a high school equivalency course but failed to complete the program. The researcher utilized the PA DOC Internal Computer Network (DOCNET) and the PA DOC Educational Counselor Database to identify a research population. The State Correctional Institute utilized had over 300 inmates

who had either previously completed a high school equivalency program while incarcerated or had failed to complete the program after being enrolled at the time of the study. Student ages ranged from 18 through age 70.

Data was collected through use of a questionnaire and by examining and sorting existing data that provided information on age and length of sentence served. The questionnaire used was a 30 question Likert-scale type questionnaire known as the Academic Resiliency Scale -30 (ARS- 30) (Simon, 2016). The researcher sought to examine the levels of academic resiliency within those individuals who were successful in completing a high school equivalency while incarcerated as compared to the individuals who failed within the same program.

One factor in this study was academic resiliency level. Another factor was success in a high school equivalency program while incarcerated.

This research study was ex post facto research due to the observation of naturally occurring relationships in the independent and dependent variable that had already have occurred at the time of this research study. This type of research is best for a study in which the manifestations of the independent variable had already occurred because the researcher in this study did not have any direct control of the independent variables because the result of the variables had already occurred. The variables were not manipulated by the researcher (Gall et al, 2007).

Research Question

This research study sought to answer the following questions:

RQ1: Is there a difference between academic resiliency scores of corrections education students who successfully complete a high school equivalency program while incarcerated and

corrections education students who do not successfully complete a high school equivalency program in which they were enrolled in while incarcerated?

RQ2: Is there a relationship between academic resiliency scores of corrections education students and corrections education student's age?

Hypothesis

The null hypotheses for this study were:

$H_0$1: There is no significant difference between academic resiliency scores of corrections education students who successfully complete a high school equivalency program and corrections education students who do not successfully complete a high school equivalency program as measured by the ARS-30.

$H_0$2: There is no significant relationship between academic resiliency scores of corrections education students and corrections education student's age as measured by the ARS-30.

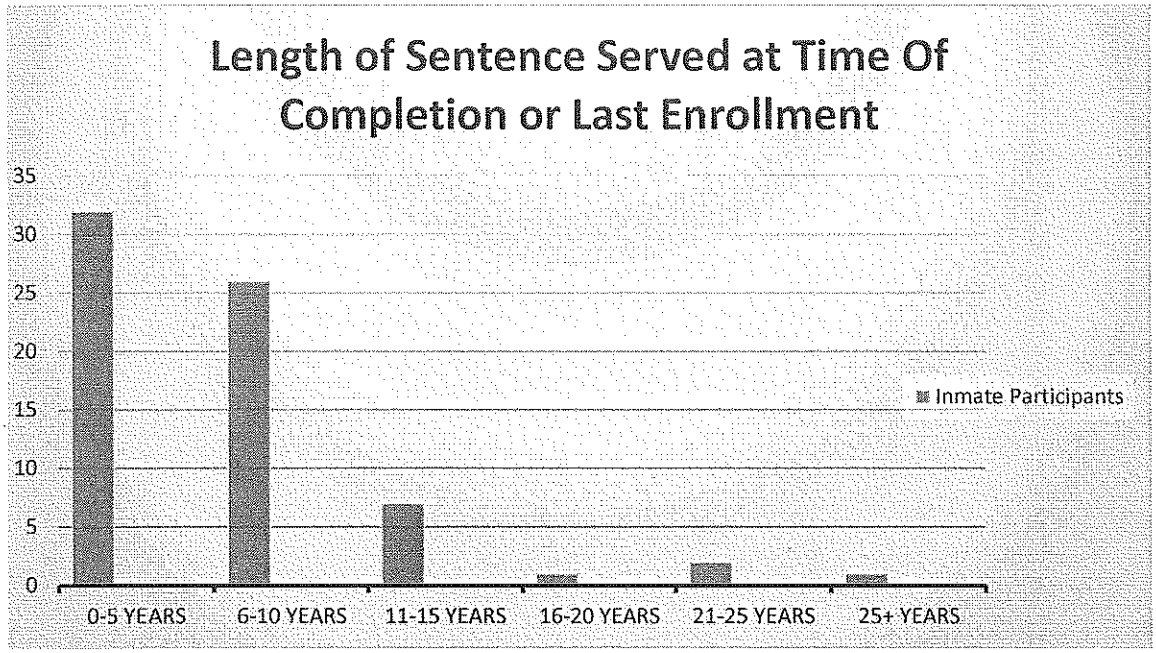
Participants and Setting

The study employed secondary analysis of student inmate records. All participants in this study were inmate students currently incarcerated in a correctional institute operated in Pennsylvania by the Pennsylvania Department of Corrections. All students were male inmates, ages 18 through 70. This study was not conducted on female participants at this time. Participants were selected through a convenience sampling technique in which the researcher targeted inmate students who had either successfully completed a high school equivalency program while incarcerated or had failed out of a program at least one time while incarcerated. All participants were students who completed the program or failed from the program between 2016 and 2020. Lengths of sentences varied for inmate students involved in

this study, as did the length of time served at the time the inmate participant either successfully completed the program or was last enrolled in the program when they removed or last enrolled (see figure 1).

Figure 1

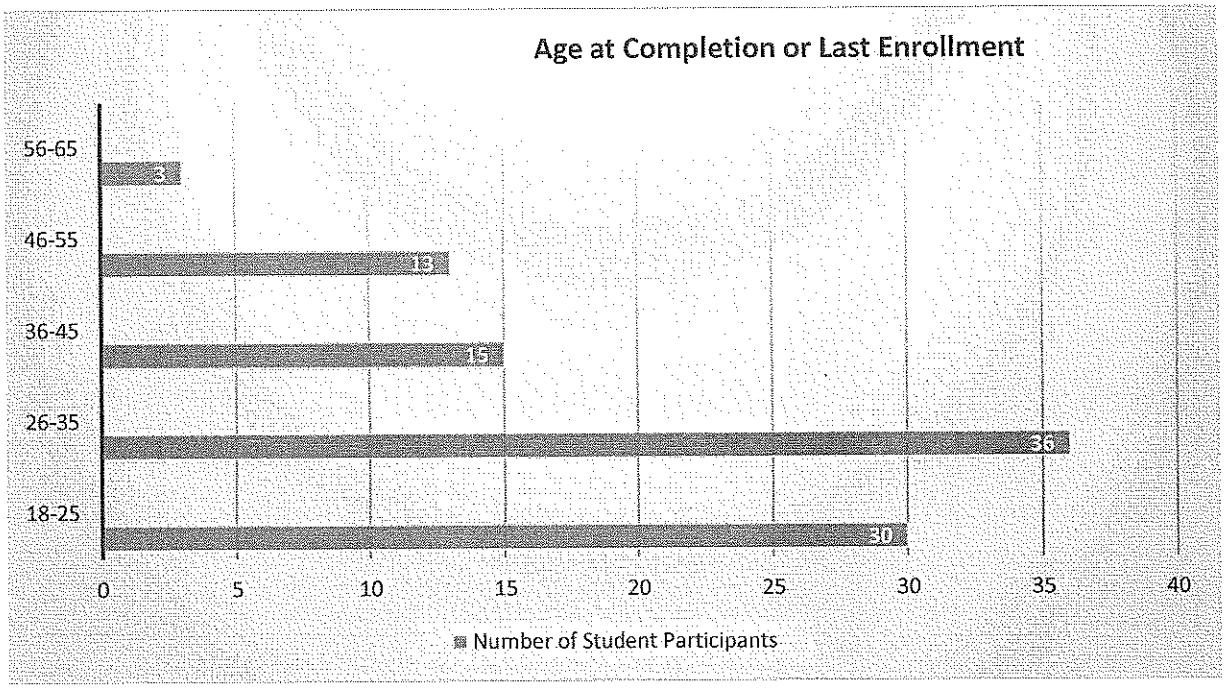
Length of Sentence Served at Time of Completion or Last Enrollment



The population of students have all been found guilty in a court of law of committing a crime that warranted that the individual be incarcerated in a state correctional facility. The participants were of varying races and ethnicities, and of varying ages. Ages of enrollment upon completion or failure for this research ranged from 18 to 65+ (see figure 2).

Figure 2

Age at Completion or Last Enrollment



Students had been identified through a database of successful completers and through records of inmates who had failed. Their identities were protected by assigning a number to each participant. A letter was assigned to their assigned number to identify whether the student completed the program or had failed for the purpose of the dependent variable. All participants were provided with an informed consent document (Appendix A). This researcher was provided permission to conduct this study by the Commonwealth of Pennsylvania and the Pennsylvania Department of Corrections (Appendix B).

According to Gall et al, (2007, 145), causal-comparative researcher samples work best when each dependent variable has at least 110 subjects. A medium effect size was assumed with statistical power at .7 at the .05 alpha level. In addition to the 30 question Likert-type scale known as the ARS-30, the researcher also asked each student to identify their age range. Ages were sorted to provide further detailed data results. The initial goal of the researcher was to

conduct all data collection within one state correctional facility. This was solely for accessibility purposes. However, in future replications of this study, the goal is to expand to other PA Department of Corrections facilities and to expand the number of inmate participants in order to create a larger sample size.

A sample size of 110 students was needed with roughly equal groups. One group contained students successfully completing the high school equivalency program and a second group of students who were unsuccessful.

Students were invited to participate through a letter on PA DOC letterhead which stated the purpose of the study. Students were informed that no personal identifiers of the participant would be used during the research. The researcher utilized PA DOC DOCNET, the PA DOC database, to identify students who had successfully completed a high school equivalency program while incarcerated and to identify students who had been previously enrolled in a high school equivalency course while incarcerated but failed to complete a program.

Instrumentation

The instrumentation used, the ARS-30, is a context-specific construct measure of academic resilience. The purpose of this instrument was to measure academic resiliency.

The ARS-30, created by Simon Cassidy, (2016), evolved from positive and negative phrased cognitive and behavioral responses to adversity derived from the fields of individual psychological, academic resilience, and self-efficacy. The ARS-30 is a relatively new construct to measure academic resilience, but it has been utilized to measure academic resilience in several recent studies (Chisolm-Burns, 2019; Anagha & Navyashree, 2020; Ershadi, Davis, & Newaz, 2020). The ARS-30 (Appendix C) is based on responses to a vignette describing a significant academic challenge. Respondents were to read the vignette and mark how they would respond to

such a challenge. The scale is rated from 1 (likely) to 5 (unlikely). The items in the scale are further broken down into three factors: perseverance, reflecting and adaptive help-seeking, and negative affect and emotional power. High scores on factors 1 and 2, combined with low scores on factor 3, indicate high resilience. This instrument allowed the researcher to compare the causes and effects of high school equivalency success to academic resiliency and to determine if a relationship between levels of academic resilience and high school equivalency for inmate students exist.

Simon Cassidy validated and released the ARS-30 in 2016. The ARS-30 was appropriate for this study in that it scores behavioral responses to adversity, proving to be both reliable and valid. The ARS-30 was found to be highly internally reliable, and scores correlated with academic self-efficacy (Cassidy, 2016). Item analysis of the ARS-30 proved internal reliability with a reported Cronbach Alpha of .90, exceeding recommended limits (Cassidy, 2016). Permission to use the ARS-30 was completed with approval through Simon Cassidy's team. According to Cassidy (2016) higher global academic resilience scores were associated with increased academic self-efficacy and increased age. Separate independent analyses of the factors did not result in higher correlations with academic self-efficacy. The ARS-30 has self-efficacy links through factor 2, negative affective and emotional response, but validity results indicate the combined factor scores can meaningfully combine to form a valid and reliable academic resilience score. The ARS-30 has demonstrated concurrent validity demonstrated by significant positive correlation between ARS-30 scores and academic self-efficacy. Discriminant validity of the ARS-30 was supported by significant mean differences and large effect sizes in ARS-30 responses to two independent versions of the academic adversity vignette which was not explained by group differences in academic self-efficacy (Cassidy, 2016).

Procedures

Institutional Review Board (IRB) approval for this research was conducted through Liberty University. Inmates are one of the protected and vulnerable populations discussed within IRB protocols, but this specific research study was ex post facto and was a non-experimental research design. Inmate students were not harmed or manipulated in any way during the collection of data. Consent form information and institutional approval can be found in Appendix A and Appendix B respectively. Data was collected from archival data to determine student program completion. Each student identified was provided with the ARS-30 questionnaire. Their identities remain protected and anonymous as their questionnaire was assigned a number with a letter combination that identified only whether that questionnaire was completed by an inmate who graduated or who had failed to graduate while incarcerated. The variables studied were not manipulated in any way. This researcher did not have any control over the variables. This researcher sought to determine cause and effect between academic resiliency levels present and high school equivalency success for inmate students. All appropriate permissions were included. Permission from the Department of Corrections was granted. IRB approval through Liberty University and individual participation from inmate students identified was appropriately secured. Inmates were identified as a vulnerable population within the IRB community, but this study did not harm, withhold information, or manipulate inmates in any way. A pilot study was conducted as a sample run of collecting data, but no validity or reliability concerns were noted at the time because the ARS-30 had proven to be both reliable and valid in the academic setting (Cassidy, 2016).

Data Analysis

Data was analyzed using the *t* test and the Spearman's Rho. A Mann-Whitney U test was also conducted due to the assumption of normality not being met. Data was collected and entered through Excel to conduct data analysis. Descriptive statistics captured ordinal data to describe the sample such as subject age range and length of sentence served at time of completion or failure.

Data was sorted and screened for unusual scores or inconsistencies using visual analysis. A box and whisker plot was used to identify extreme outliers.

A *t* test and Mann-Whitney U test were conducted to analyze the data for null hypothesis 1. The *t* test was appropriate to use for data analysis in this proposed study, as this study examined the statistical significance of differences between two independent categorical groups containing interval data which may appear on a linear line (Gall et al., 2007). A Mann-Whitney U test was also used due to the assumption of normality not being met. The Mann-Whitney U test is the nonparametric equivalent of a *t* test.

A Kolmogorov-Smirnov test was conducted to test the assumption of normality because the sample size ($n = 110$) is greater than 50. The assumption of equal variance assumes that populations have the same variances (Warner, 2013). This assumption was tested by using the Levene's Test of Equality of Error Variance (Warner, 2013). A Bonferroni correction was utilized to protect against Type 1 errors. An alpha of 0.3 was used for testing. Bonferroni corrections guard against Type I statistical errors (Gall et al., 2007).

Following analysis for outliers, sample assumption testing, and independent means analysis, Cohen's *d* was used to capture effect size for null hypothesis.

Spearman's Rho was used to test null hypothesis 2 given the ordinal data (age and resiliency) and the question of relationship between two variables. This testing provided information on the strength of association between two non-parametric variables. An alpha of 0.3 was used for testing.

The Spearman's Rho analysis process requires testing of two ordinal variables. The testing sought to determine if any difference occurred. All interval data and tests of assumption were analyzed and consistent with Spearman's Rho. Assumption testing included (1) the two variables represent paired observations, and (2) the relationship will be monotonic between the two variables and will be identified through a scatter plot. A monotonic relationship exists when either of the variables increase in value together, or as one increases, the other decreases. It is possible that scatter plot analysis will reveal that a relationship between the two variables does not exist.

CHAPTER FOUR: FINDINGS

Overview

Findings consist of data screening, assumption testing, an inferential analysis conducted by utilizing a *t* test and Mann-Whitney U test, and effect size. The researcher rejected Null hypothesis 1, $H_0 1$, but Null hypothesis 2, $H_0 2$, was not rejected.

Research Question

RQ1: Is there a difference between academic resiliency scores of corrections education students who successfully complete a high school equivalency program while incarcerated and corrections education students who do not successfully complete a high school equivalency program in which they were enrolled in while incarcerated?

RQ2: Is there a relationship between academic resiliency scores of corrections education students and corrections education student's age?

Null Hypothesis

The null hypotheses for this study are:

$H_0 1$: There is no significant difference between academic resiliency scores of corrections education students who successfully complete a high school equivalency program and corrections education students who do not successfully complete a high school equivalency program as measured by the ARS-30.

$H_0 2$: There is no significant relationship between academic resiliency scores of corrections education students and corrections education student's age as measured by the ARS-30.

Descriptive Statistics

Mean and standard deviation obtained for each variable is found in Table 1.

Table 1

Descriptive Statistics indicated by t test

Variable	*N*	Mean	Std. Deviation
Completer	57	120.2	13.1
Non-completer	45	111.9	14.6

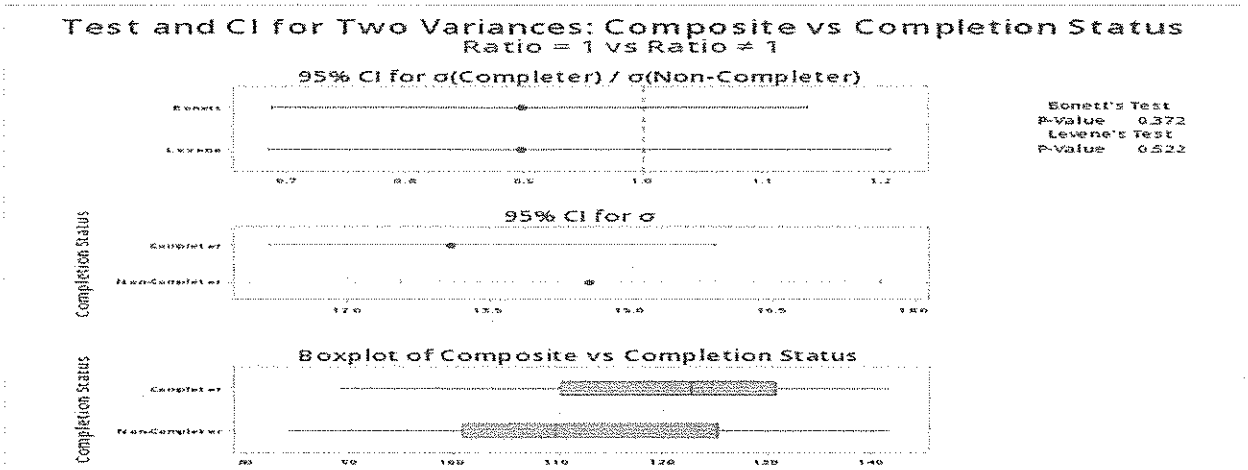
Results

Data Screening

Data screening was conducted on all variables. The researcher examined the data set for missing data points and inconsistencies. Data errors or inconsistencies were identified on several questionnaires; therefore, the following data was excluded. ARS-30 questionnaire participants 14, 15, 25, 61, 74, 102, 103, and 109 failed to provide answers to all 30 questions, thus distorting the data and providing scores that were not fully accurate or indicative of academic resilience level. Examination of the boxplot shows the assumptions of linearity, and no bivariate outliers are tenable. The boxplot shows no outliers once the inconsistent or partially completed ARS-30 questionnaires were removed (see Figure 3).

Figure 3

Boxplot



Assumption Testing

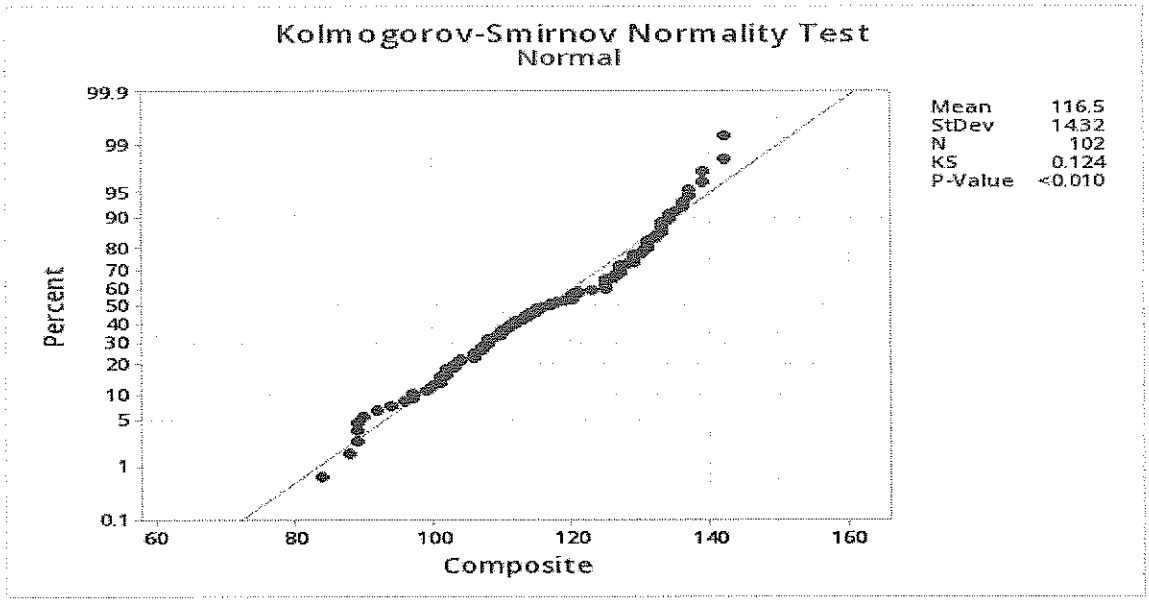
A *t* test was used to test the null hypothesis. A *t* test requires that the assumptions of no bivariate outliers, linearity, and bivariate normal distribution are met. The assumption of equal variances between the two populations were tested using Levene's Test of Equality of Error Variance. A Levene's *p*-value of 0.52 shows the assumption of equality variances is tenable (see Figure 3).

A Kolmogorov-Smirnov test was conducted to test the assumption of normality. The Kolmogorov-Smirnov test produced a *p*-value less than .05 which indicates the assumption of normality was violated (see Figure 4). Based on the Kolmogorov-Smirnov *p*-value of .010, which was below the threshold of .05, the assumption of normality was not met (see Figure 4). A *t* test is still considered appropriate for data analysis due to a *t* test using the mean of the sample, which enables some non-normality to be tolerated. The sample size is an appropriate size to support the minimal skewness of the sample distribution. Specifically, boxplot examination shows assumption of linearity, and no bivariate outliers are tenable. However, due to the

assumption of normality not being met, a Mann-Whitney U test was conducted to strengthen the overall data analysis and to provide an additional comparison of the two independent samples, Completers and Non-completers. The Mann-Whitney U test is considered to be the nonparametric equivalent to the *t* test (Gall et al., 2007).

Figure 4

Kolmogorov-Smirnov Normality Test



Difference in Academic Resilience Level Between Completers and Non-Completers

A *t* test was used to test the null hypothesis regarding differences in Academic Resilience level between Completers and Non-Completers enrolled in a corrections education high school equivalency program. Equal variance was assumed. The researcher rejected the null hypothesis. Analysis shows that the null was rejected at a 95% confidence level were $t(102) = 3.04$, $p = 0.003$ (see Table 4). Completers ($M = 120$, *S.D.* = 13.1) had significantly higher ARS-30 scores than non-completers ($M = 111.9$, *S.D.* = 14.6) (see Table 2).

The *t* test analysis examined the statistical difference between the two independent categorical groups, Completers and Non-completers. There was a statistical difference of ARS-30 scores, as indicated by the *p*-value of 0.003, found between Completers and Non-completers (see table 4).

Table 2

Descriptive Statistics indicated by t test & Mann-Whitney U test.

Variable	*N*	Mean	Std. Deviation
Completer	57	120.2	13.1
Non-completer	45	111.9	14.6

Null hypothesis $H_0: \mu_1 - \mu_2 = 0$
Alternative hypothesis $H_1: \mu_1 - \mu_2 \neq 0$

T-Value	DF	P-Value
3.04	100	0.003

Mann-Whitney U Test Analysis

Completion Status	N	Mean	StDev
Completer	57	123	13.1
Non-Completer	45	110	14.2

A Mann-Whitney U test showed that there was a significant difference (p=0.003) between Completers as compared to Non-completers. The chance of a type 1 error, rejecting a correct hypothesis is small. The difference between Academic Resilience scores of Completers versus Non-completers is significant. The researcher again rejected the null hypothesis. According to nonparametric Mann-Whitney U test analysis, Completers ($M = 123$, $S.D. = 13.1$)

had significantly higher ARS-30 scores than Non-completers ($M = 110$, $S.D. = 14.2$) (see table 2).

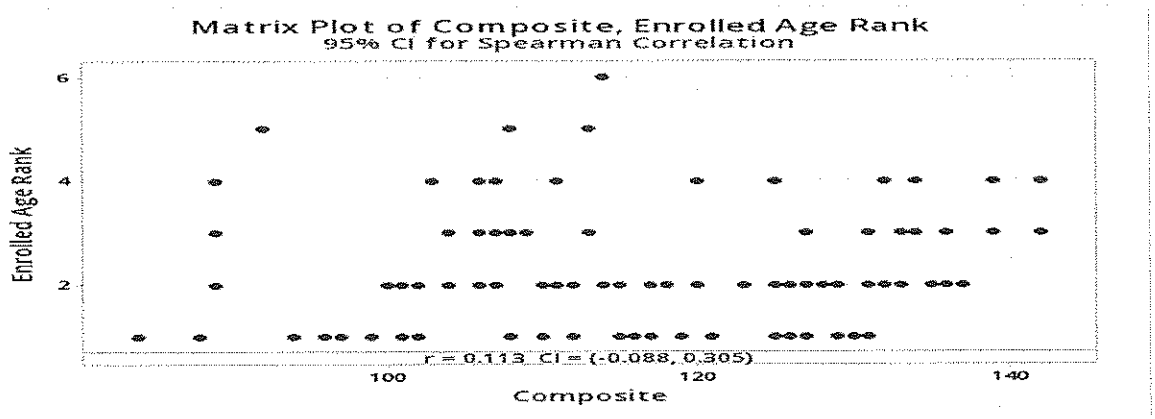
According to t test analysis, a Cohen's d effect size of 0.598 indicates a medium effect size. Completers ($M = 120$, $S.D. = 13.1$) had significantly higher ARS-30 scores than Non-completers ($M = 111.9$, $S.D. = 14.6$). The observed standardized effect size of (0.29), $Z/\sqrt{(n + n)}$ is small according to Mann-Whitney U test analysis. This indicates that the magnitude of the difference between the value from Completer and the value from Non-Completers is small. The Mann-Whitney U effect size of .29 is a moderate effect size according to Cohen.

Assumption Testing

A Spearman's Rho correlation was run to test the null hypothesis 2, $H_0 2$ at a 95% confidence interval for a value between -.0088 and .305. The confidence interval contains 0 which indicates not much, if any correlation exists (see Figure 5).

Figure 5

Matrix Plot of Age Rank for Spearman Rho Correlation

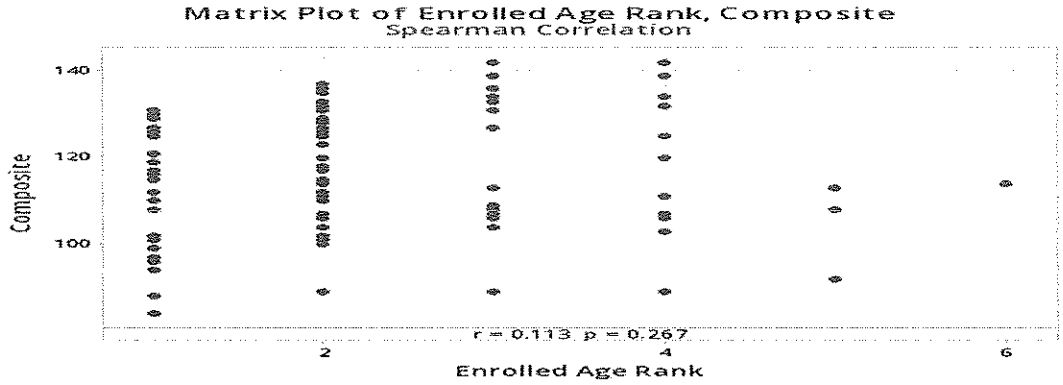


Significance of Relationship Between Student Academic Resiliency Score and Age

A Spearman's Rho correlation was run to test the null hypothesis 2, $H_0 2$, which states that there is no significant relationship between a corrections education students academic resiliency score and a student's age. There was no correlation between the two variables $r(98) = 0.11$, $p = 0.267$ (see Figure 6). Null hypothesis 2 was not rejected.

Figure 6

Matrix Plot of Enrolled Age Rank & Composite



Correlation type	Spearman
Number of rows used	98

	Enrolled Age Rank
Composite	0.113

No significant correlation between academic resilience scores and age were found, therefore, there was not enough to find a significant relationship between age of the participants and academic resilience score.

Effect size of null hypothesis 2, $H_0 2$, is the actual correlation or rho itself as a measure of effect size. In this case, the effect size of .113 shows little to no correlation at all, as the effect size, or rho value, is much closer to 0, rather than a perfect positive correlation of 1 or a perfect negative correlation of -1.

CHAPTER FIVE: CONCLUSIONS

Overview

Several questions and implications in regards to student success and academic resilience level have been answered and can be discussed given the results of this study. This research indicates that a significant difference is found in the level of academic resilience of a corrections education high school equivalency completer versus a non-completer. The implications of this study not only bring into focus mechanisms that may provide inmate students opportunities to reset their lives by succeeding academically, but this study also provides focus on ways corrections education administrators may create best practices in an effort to improve student success rates and create a greater financial return on investment for tax-payers who often foot the bill for incarcerated individuals.

Discussion

The purpose of this causal-comparative quantitative study was to examine the levels of academic resiliency in corrections education students who successfully complete a high school equivalency program. Specifically, this study presented two research questions to be examined.

Comparison of Academic Resiliency Scores

Research question one sought to examine whether a difference can be found between academic resiliency scores of corrections education students who successfully complete a high school equivalency program while incarcerated and corrections education students who do not successfully complete a high school equivalency program in which they were enrolled in while incarcerated. Data results proved that a significant difference does exist between the academic

resilience level of an individual who successfully completed a high school equivalency program while incarcerated as opposed to the level of academic resilience present in an individual who was enrolled in a high school equivalency program but failed to successfully complete a high school equivalency program while incarcerated. The *t* test Mean ARS-30 score of a Completer was 120 compared to 111 for a Non-completer and a Mean ARS-30 score of 123 for a Completer to 110 for a Non-completer as analyzed by the Mann-Whitney U test. Both the *t* test analysis and Mann-Whitney U test provided a *p*-value of .003, indicating a significant difference occurred.

Academic resilience levels are key for examination because previous meta-analyses conducted have found that mindset alone is not the main determinant toward academic success for all students. Mindset and resilience did show favorable results for at-risk and low socioeconomic students in previous studies. However, these previous studies determined that mindset is more of a cog in the resiliency cycle rather than the main indicator of academic success (Sisk et al, 2018). Bandura, 1998, suggested that self-efficacy is of most importance when an individual learner is faced with a new task, or when they feel they are likely to be successful. Dweck, 2006, argued that mindset and self-efficacy effect an individual's willingness and motivation towards a task more prominently at young ages, when an individual's attitude is malleable. These viewpoints of the role of self-efficacy and mindset bring into the light the importance of academic resilience in corrections education students.

Corrections education students are attempting to achieve a feat they previously already came up short towards in the past. Corrections education students must earn a high school equivalency after already having attended schooling previously, ultimately not succeeding. This previous experience highlights the role of academic resilience in that success may be less of a question of how motivated and easily influenced corrections educations student are, but rather

how willing are they to persevere and stay resilient towards the task. The research points in this direction. Corrections education students who successfully complete a high school equivalency class had significantly higher levels of academic resilience.

Academic resilience really began to take shape as a specific construct when researchers used the results of students from studies of at-risk children who were able to overcome odds and succeed where others in similar situations were failing. Wang et al, 1993, found that resilient children were observed to perceive experiences constructively and have a clear sense of purpose controlling their fate. Seligman also made a similar discovery in regard to resilient individuals. Seligman, 2016, found that resilient individuals rarely show the passive behaviors that are associated with learned helplessness. Seligman found that individuals who did not become helpless interpret events differently than those who became helpless. This research validates the views of Wang et al and Seligman. Corrections education students who were successful in obtaining a high school equivalency were able to view and interpret events differently than those who were not successful. The significant difference in levels of academic resilience as indicated by the results of this research study weigh heavily on the importance of a resilient mindset and belief in one's ability to control responses to events as compared to learned helplessness and the inability to believe that one can persevere and overcome in an academic setting in which they had previously failed.

Although academic resilience has never been studied in corrections education to the best knowledge of this researcher, the information is much in alignment with previous studies that examine the link and cycle between self-efficacy, mindset, and resilience. Individuals who possess higher levels of resilience, especially individuals who may have lived in at-risk environments, or those with previous trauma, are more likely to succeed (Garmzey, 1991 and

Wang et al, 1993). This research supports previous resilience research highlighting successes for at-risk students and at-risk individuals.

Building further on the at-risk population, and the high likelihood that corrections education students were likely to have been labeled as at-risk prior to incarceration, the identification of academic resilience levels as being a possible indicator for student success is all the more important when the Amitay and Gumpel, 2013, research highlighting self-efficacy and resilience in adjudicated children is considered in the context of corrections education. Identifying the correlation between academic resilience levels and high school equivalency success in corrections education builds on previous findings that self-efficacy and level of resilience are enabling factors that play a role in an individual's belief, and subsequent motivation to persevere in an effort to succeed while others, in similar situations, fail to succeed.

Amitay and Gumpel, 2013, argue that making individuals aware of the effects of self-efficacy may be useful as a means to increase resilience for at-risk populations. Merging the effects of self-efficacy on student motivation, and the understanding that higher levels of academic resilience may lead to improved student success, corrections education administrators now have the beginning step to begin making corrections education students aware of their role in creating their own sustained levels of motivation. Corrections education students can be informed of the role that academic resilience may play in students finding success. This research becomes even more significant when genetics and epigenetics, and the role in which resilience can be built upon and improved, is highlighted. Individuals who find themselves in long-term adverse or chronically stressful situations, such as the prison experience, can develop and improve their ability to choose their response to external circumstance, because an individual's response is not genetically coded, nor is it automated. A corrections education student who has

failed previously could develop an understanding that poor past educational experiences may have happened to them, but, ultimately, they have the ability to react to hardships and become better because of that experience. Individuals could purposefully practice resilience by becoming aware of the resilience building process, which will ultimately lead to higher levels of resilience.

Relationship Between Academic Resiliency Scores and Age

The second question posed in this research is whether a relationship exists between academic resiliency scores of corrections education students and correction education student age. The data analyzed did not find that a relationship exists between academic resilience scores and age. Age does not appear to be a factor in level of academic resilience present. To the knowledge of this researcher, no previous research has been conducted examining relationship between academic resilience level and age. Age and resilience have been examined as predictors of academic success in previous studies, with information opposing resilience and age as indicators of success (Ebulum & Chiodibi, 2016). Students in secondary education who reported higher levels of resilience were found to have higher satisfaction with their academic major. However, age did not significantly predict satisfaction. In Ebulum & Chiobidi's study, (2016) no relationship between resilience and age was discovered. A relationship between resilience and age was also examined in a study which analyzed Abusive Childhood Experiences (ACE's) and resilience. The study found that age and resilience were not related. It was determined that individuals with multiple ACE's were less likely to possess high levels of resilience and were more likely to show depression symptoms later in life. However, individuals who possessed higher levels of resilience as they aged were less likely to display depressive behaviors (Ward et

al, 2020). The relationship between age and resilience was again unfounded in the Ward et al study.

Resilience and age were also studied to predict academic performance in adult online college students. The authors found that resilience and age no not, individually or in linear combination, adequately predict academic performance. High levels of resilience were predictors of success, but age and resilience were not directly related (Danielsdottir et al, 2022). This previous information, combined with results from this study, further trend in a direction that variations in resilience level can be accounted for by events and actions taken by the individual, not age (Amstadter et al, 2014). The age of an individual, especially adults, appears irrelevant when determining level of resilience present.

The individuals in this study ranged from age 18-65+. Previous research, to the knowledge of this researcher, has never attempted to identify whether a relationship exists in level of academic resilience and age, either in adolescent students or adult students. The lack of credible evidence that a relationship exists between age and academic resilience neither supports or contradicts previous studies examined specifically tied to academic resilience, however, age and academic resilience will be examined in more detail as implications of this research are discussed.

Implications

To the knowledge of this researcher, the level of academic resilience has never been studied in corrections education students. Identifying that a significant difference in the level of academic resilience exists between corrections education students who successfully complete a high school equivalency course as compared to those who fail to successfully complete a high

school equivalency course once enrolled may have significant implications to the entire field of corrections, specifically to the student experience.

Corrections education is set to benefit through greater understanding of the cognitive aspects of the corrections education student experience discovered through this research. This research was able to pull from experiences of perceived student self-efficacy, growth mindset and increased levels of motivation, learned helplessness, and resiliency factors to begin to paint the picture of the way a corrections education student's mind may work while enrolled in a corrections education classroom. Resiliency factors and mindset techniques are proven indicators of success for varying organizations such as the United States Army, and within the middle and secondary levels of education. This research now provides proof that mindset techniques, specifically resiliency factors as indicated by academic resilience level present, is also a success indicator for corrections education.

This research also has implications in regard to corrections education pedagogy and curriculum. This research may improve the creation and implementation of corrections education specific curriculum and introduce a new best practice in corrections education instruction that specifically addresses building upon and improving resilience. This discovery may become a starting point leading to increased student success and may have impacts on the way corrections education curriculum is written and applied that benefits the student experience.

The ARS-30 evolved from several previous scales that measure resilience, but more specifically, the ARS-30 evolved from discussion that any measure of resilience should include behavioral responses to a perceived adverse event. Academic resilience scores were further broken down utilizing three factors that are addressed within the ARS-30. Each factor addresses certain aspects that measure behavioral and emotional reactions to adversity (Cassidy, 2016).

Factor 1 is interpreted as perseverance, factor 2 is interpreted as reflecting and adaptive-help-seeking, and factor 3 was interpreted as negative affect and emotional response. Evaluation of each factor regarding overall differences in academic resilience between inmates who successfully completed a high school equivalency program and inmate students who did not successfully complete a program becomes more imperative when the primary purpose of the ARS-30 is taken into consideration for this study. The ARS-30 is not just a scale that identifies academic resilience levels but the ARS-30 is used to facilitate interventions aimed at building academic resilience (Cassidy, 2015). Corrections education administrators could also implement policy into the curriculum that utilizes the ARS-30 as a baseline assessment of all corrections education students

Currently, corrections education students are identified by IQ scores and by TABE levels. Corrections education students are not taught their own worth and the abilities that they have. Resiliency factors, if implemented correctly, may swing the pendulum from thoughts of inadequacy and previous failures to a belief that an individual inmate student is capable. Corrections education curriculum could become less dependent on pure academic ability, as identified by IQ or TABE level, and could become more dependent on resilience, thus improving the overall student education experience and improving success levels.

This study also has ramifications outside of corrections education. Corrections education plays a vital role to students by providing students an opportunity to reset their lives in a positive manner. Corrections education also provides large amounts of return on investment for tax-payers who often foot the bill for individuals who are incarcerated (Scott, 2016). Improving the success rates and improving the student experience through resilience techniques is beneficial to addressing each of these concerns.

Hundreds of millions of dollars are invested yearly in programs that seek to close learning gaps for disadvantaged and at-risk students. Unfortunately, despite the contributions and funding, students are still falling short and finding themselves incarcerated (Mallet, 2016). Theoretically, corrections education students are often an expansion of a non-homogeneous population of students that were once determined to be at-risk. Hernandez, (2016), believes that any student who continues to possess characteristics such as low self-confidence with schoolwork, distrust of educators and authority figures, and have limited notions of their academic futures will continue to find themselves in a cycle of learned helplessness and minimal success. The discovery of the importance of academic resilience levels towards student success and the ability to identify and apply factors that lead to improved academic resilience provides the ability to change the entire student experience, improving not only academic success, but providing building blocks that will allow corrections education students to improve self-confidence and trust in authority figures.

Additionally, although a specific financial amount cannot be put on the implication of providing inmate students with improved self-confidence and belief in their ability, the implication of breaking the learned helplessness and failure cycle alone has the potential to improve resilience levels saving taxpayers hundreds of thousands of dollars. Providing a skill that all inmates will take with them, a skill that is bigger than just a diploma, but rather the belief that a resilient individual can succeed in an area that they previously failed within, cannot simply be measured by a dollar amount. This mindset and belief that one can succeed where one previously failed may also lead to decreased recidivism levels due to the fact that an individual will believe that they are more likely to be successful post release in any number of endeavors, specifically academic endeavors. Corrections education students who possess higher levels of

academic resilience will be equipped with tools to overcome adversity as they transition back into society.

Limitations

Several limitations to this study occurred, specifically, the student population tested was tested primarily at one institution, State Correctional Institute Houtzdale. Students located and educated at one institute would have all had similar education experiences while incarcerated due to the geographic location of the prison and the education staff who would have provided educational classes. Respondent answers to the ARS-30 may have been affected because they would have all had similar experiences.

The majority of the participants also have had personal interactions at some point with the researcher. The researcher provided each participant with an outline of the study and the participants were able to remain anonymous, however, personal interaction with the researcher at some point in the past may have created some sort of respondent bias by the participant when answering questions on the ARS-30.

Recommendations for Future Research

Several recommendations for future research should occur to further the information discovered in this research.

First and foremost, this research was conducted on a limited population housed at SCI Houtzdale. The Pennsylvania Department of Corrections may be interested in sponsoring this type of research in a larger cohort by tying in various other State Correctional Institutes and

identifying whether the data stays consistent when mined from a large sample of inmates from various institutions.

This research should also be conducted to ensure that academic resilience levels and student success is not unique to inmates at SCI Houtzdale or the Pennsylvania Department of Corrections, but rather this study should be conducted at Federal Bureau of Prisons and county correctional facilities. In addition, future research could also consider only utilizing inmates who in certain age groups or inmate students who are serving their first sentence, essentially only studying the academic resilience level of an inmate student who has not entered and reentered the state prison system.

This study also opens the door for conversation on whether implementing techniques to improve the student experience through purposefully attempting to raise levels of academic resilience can be achieved through the curriculum. Research could be conducted through a controlled study where the ARS-30 score is used as a student baseline followed by the introduction of resilience factors and introduction of information to students enrolled on an individual's ability to control their response to adversities and past failures. Future research could track students who have been provided with this type of information as compared to those who were not provided with information that makes corrections education students aware of their ability to choose responses in an effort to see if academic resilience can be taught and improved upon.

Future research could also be conducted on specific factors of the ARS-30. The ARS-30 evolved from several previous scales that measure resilience, but more specifically the ARS-30 evolved from discussion that any measure of resilience should include behavioral responses to a perceived adverse event. Academic resilience scores were further broken down utilizing three

various factors that are addressed within the ARS-30. Each factor addresses certain aspects that measure behavioral and emotional reactions to adversity (Cassidy, 2016). Factor 1 is interpreted as perseverance, factor 2 is interpreted as reflecting and adaptive-help-seeking, and factor 3 was interpreted as negative affect and emotional response. Evaluation of each factor in regard to overall differences in academic resilience between inmates who successfully completed a high school equivalency program and inmate students who did not successfully complete a program becomes more imperative when the primary purpose of the ARS-30 is taken into consideration for this study. The ARS-30 is not just a scale that identifies academic resilience levels but is used to facilitate interventions aimed at building academic resilience (Cassidy, 2015). Significant value of independent factors scores may provide insight into the differences in academic resiliency levels present, but also in specific areas where interventions may be beneficial in improving the success rate for incarcerated students who enroll in a high school equivalency course.

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APPENDICES

Appendix A

Consent

Title of the Project: Exploring Academic Resiliency in a Corrections Education High School Equivalency Program.

Principal Investigator: Richard Westover, ED S, M. Ed, Liberty University Graduate Student

Invitation to be Part of a Research Study

You are invited to participate in a research study. In order to participate, you must be 18 years of age or older, successfully completed a high school equivalency program while incarcerated, OR have previously enrolled in a high school equivalency program and failed to complete it prior to reenrollment, or have failed to complete it while being incarcerated. You are still eligible to participate in this study if you had been removed from a high school equivalency course, but have since been reenrolled due to PA DOC policy. Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to take part in this research project.

What is the study about and why is it being done?

The purpose of this research is to determine if there is a relationship between academic resilience and successfully completing a high school equivalency program while incarcerated.

What will happen if you take part in this study?

If you agree to be in this study, I would ask you to do the following things:

1. Complete a 30-question questionnaire and immediately return the questionnaire to the Education Department via the inmate mail system (15-20 minutes). Control and Experimental Groups will be differentiated by whether an individual successfully completed a high school equivalency program while incarcerated or whether an individual failed to complete a high school equivalency program. Please complete the questionnaire and return it within one week of receiving the questionnaire.

How could you or others benefit from this study?

Participants should not expect to receive a direct benefit from taking part in this study. Participation in this study will not affect parole decisions. However, your assistance and answers will be utilized to better inform correction education administrators and to provide a better learning experience moving forward.

What risks might you experience from being in this study?

The risks involved in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

How will personal information be protected?

The records of this study will be kept private. Research records will be stored securely, and only the researcher will have access to the records.

- Participant responses will be anonymous.
- Data will be stored on a password-locked computer and the hard copies of your questionnaires will be kept secured in a locked cabinet.
- Data will be deleted from the computer and hard copy records will be destroyed after 3 years.

Does the researcher have any conflicts of interest?

The researcher serves as an administrator at this facility. To limit potential or perceived conflicts the study results will be anonymous, so the researcher will not know who participated. This disclosure is made so that you can decide if this relationship will affect your willingness to participate in this study. No action will be taken against an individual based on his or her decision to participate in this study.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether to participate will not affect your current or future relations with Liberty University or the Pennsylvania Department of Corrections. If you decide to participate, you are free to not answer any question or withdraw at any time prior to submitting your responses without affecting those relationships.

What should you do if you decide to withdraw from the study?

If you choose to withdraw from the study, please do not submit your study materials. Your responses will not be recorded or included in the study.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is R. Westover, School Principal. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact him by submitting a DC-135A Request to Staff form. You may also contact my Liberty University sponsor at [redacted]

Whom do you contact if you have questions about your rights as a research participant?

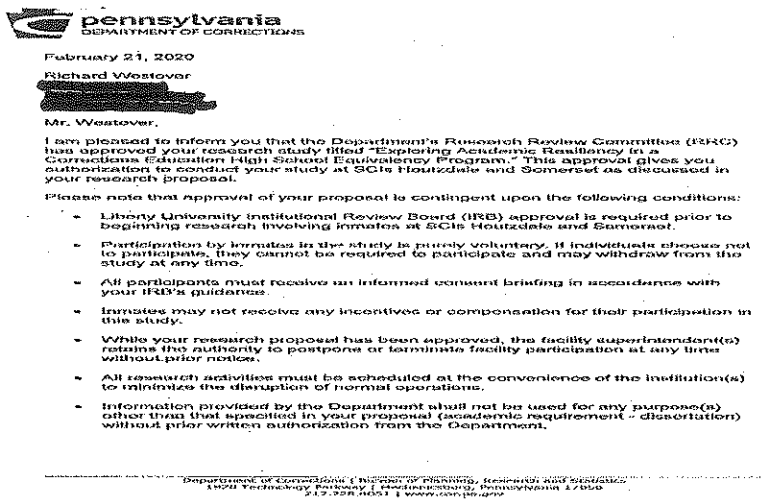
If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the Institutional Review Board, 1971 University Blvd., Green Hall Ste. 2845, Lynchburg, VA 24515 or email at irb@liberty.edu

Your Consent

Before agreeing to be part of the research, please be sure that you understand what the study is about. You may keep this copy of this document for your records. If you have any questions about the study later, you can contact the researcher/study team using the information provided above.

Appendix B

PA DOC Permission Letter (RARF)



pennsylvania
DEPARTMENT OF CORRECTIONS

February 21, 2020

Richard Westover
[redacted]

Mr. Westover,

I am pleased to inform you that the Department's Research Review Committee (RRC) has approved your research study titled "Exploring Academic Resiliency in a Corrections Education High School Equivalency Program." This approval gives you authorization to conduct your study at SCIs Houtzdale and Somerset as discussed in your research proposal.

Please note that approval of your proposal is contingent upon the following conditions:

- Liberty University Institutional Review Board (IRB) approval is required prior to beginning research involving inmates at SCIs Houtzdale and Somerset.
- Participation by inmates in the study is purely voluntary. If individuals choose not to participate, they cannot be required to participate and may withdraw from the study at any time.
- All participants must receive an informed consent briefing in accordance with your IRB's guidance.
- Inmates may not receive any incentives or compensation for their participation in this study.
- While your research proposal has been approved, the facility superintendent(s) retains the authority to postpone or terminate facility participation at any time without prior notice.
- All research activities must be scheduled at the convenience of the institution(s) to minimize the disruption of normal operations.
- Information provided by the Department shall not be used for any purpose(s) other than that specified in your proposal (academic requirement - dissertation) without prior written authorization from the Department.

Department of Corrections | Bureau of Planning, Research and Statistics
1920 Technology Parkway | Mechanicsburg, Pennsylvania 17050
717.728.4651 | www.cor.pa.gov

- Prior to proceeding with research, please sign and return the attached "Research Ethics and Policy Guidelines and Conditions." Your signature will imply your acceptance of the terms and conditions of the Department's Research Policy. This signed form will be maintained in our files for the duration of your project.

I wish you the best in your research. Please forward this office a copy of your final report and any interim reports. If you have further questions, you may contact me at [redacted]

Sincerely,

[redacted]

Jesse Zortman MA, MACP
Research and Evaluation Manager
Chair, Research Review Committee

Encl

cc Dir. Bucklen
Ms. Sheets

File 2020-04

COMMONWEALTH OF PENNSYLVANIA
Department of Corrections
Bureau of Planning, Research & Statistics

March 21, 2019

SUBJECT: Research Ethics and Policy Guidelines and Conditions

TO: All Parties with Approved Research Proposals

FROM: Jesse Zortman MA, MACP
Research and Evaluation Manager
Chair, Research Review Committee

This memo addresses some specific conditions in the Pennsylvania Department of Corrections Research Activities Policy (02.01.02) that must be adhered to by all investigators (including anyone involved in a project) conducting approved research within the DOC. The DOC Research Review Committee (RRC) reviews all research proposals submitted to the department. When a proposal is approved, the investigator agrees to abide by all terms and conditions established in the DOC Research Policy, as well as any special conditions imposed by the RRC, which will be communicated in writing to the investigator. The investigator agrees to these conditions for the duration of the project.

In order to avoid confusion, this memo highlights some of the most frequently asked questions about the policy and addresses conditions that are of special importance.

- Departmental support for research is conditional on the investigator's adherence to terms and conditions of the research policy as stipulated by the RRC.
- Prior to commencing a research project, investigators must provide the RRC with confirmation of appropriate IRB approval. Ongoing adherence to the research protocol approved by the IRB is expected.
- Investigators must not disclose to any other parties any inmate specific data (e.g. data runs) provided in connection with their research project, unless special permission is granted by the RRC. Data runs must be safeguarded at all times and destroyed when no longer needed.
- Provision to inmates or staff of any sort of monetary or non-monetary payment for participation in research as research subjects is strictly prohibited.
- Recording of interviews with inmates or staff (audiotaping, videotaping, photographing, etc.) is strictly prohibited, unless special permission is granted by the RRC and facility superintendent.
- Investigators shall not engage in personal correspondence with inmates. Any correspondence with inmates must be on official letterhead (e.g. university), professional in tone, and demonstrably germane to the research project.
- When utilizing surveys, questionnaires, or any other research-related documents returned from an inmate inside a State Correctional Facility (SCI), the Research Office recommends that certain precautions be taken by the investigator(s). It is advised that latex gloves or masks be used when handling these documents in order to prevent incidental exposure to harmful chemicals or toxins that may be present inside the envelope or paper.
- Violation of any conditions of the research policy or other stipulations may be grounds for revocation of approval.

This form must be signed and dated by all primary investigators upon notification of approval of research, and returned to this office prior to the commencement of research (please keep a copy for your files). Your signature below implies acceptance of the terms and conditions outlined here.

Signed: [redacted] Date: 3-24-20

Printed Name: Richard J. Westover

COMMONWEALTH OF PENNSYLVANIA
Department of Corrections
Bureau of Reentry, Planning, Research, and Statistics

Ethical Research Guidelines

When conducting any type of research, investigators must always strive to respect the rights, dignity and trust of participants (both inmates and staff), and must be careful not to compromise their own credibility or the broader image of research in applied policy settings. Researchers must also be careful to observe agency rules, regulations and conditions, as well as the terms of their own research protocols. Due to increasing concerns regarding ethical practices in research, a commonly agreed upon set of basic standards is needed. Establishing guidelines for all research projects approved by the Pennsylvania Department of Corrections is important to ensure all researchers conduct themselves in a professional and ethical manner. The following is a list of general principles of research ethics, developed by the American Psychological Association. These provide a good ethical foundation for all research projects conducted within the department.

- **Competence:** Researchers should use only those research techniques they are qualified for, either through education or formal training.
- **Integrity:** Researchers should always be fair, honest, and respectful of others. They should always strive to promote integrity in their field by making only truthful statements about their research.
- **Professional and Scientific Responsibility:** Researchers' moral and ethical conduct should not compromise or reduce the public trust in their field.
- **Respect for Peoples' Rights and Dignity:** All researchers must respect participants' rights of privacy, confidentiality, self-determination, and autonomy. Researchers will not discriminate on factors such as race, sex, ethnicity, socio-economic status, physical or mental disability, and religion.
- **Concern for the Welfare of Others:** Researchers must always consider the welfare of the participants when doing research. When conflicts arise, they try to solve them responsibly without harming the participants.
- **Social Responsibility:** Researchers should always attempt to advance human welfare with their science and try to avoid misuse of their work.

All investigators conducting research within the department are expected to keep these principles in mind. Not only does your work reflect on the Pennsylvania Department of Corrections, it speaks to your reputation and to that of your field. More specific and detailed research guidelines can be found at the American Psychological Association's website: http://www.apa.org/ethics/

Pennsylvania Department of Corrections Research Activities Policy, 02.01.02, can be found at the following link: Research Activities Policy Statement.

Appendix C

Liberty University IRB Approval

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

July 7, 2021

Rick Westover
D Mattson

Re: IRB Approval - IRB-FY20-21-298 EXPLORING ACADEMIC RESILIENCY IN A CORRECTIONS EDUCATION HIGH SCHOOL EQUIVALENCY PROGRAM

Dear Rick Westover, D Mattson:

We are pleased to inform you that your study has been approved by the Liberty University Institutional Review Board (IRB). This approval is extended to you for one year from the following date: July 7, 2021. If you need to make changes to the methodology as it pertains to human subjects, you must submit a modification to the IRB. Modifications can be completed through your Cayuse IRB account.

Your study falls under the expedited review category (45 CFR 46.110), which is applicable to specific, minimal risk studies and minor changes to approved studies for the following reason(s):

7. Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Your stamped consent form(s) and final versions of your study documents can be found under the Attachments tab within the Submission Details section of your study on Cayuse IRB. Your stamped consent form(s) should be copied and used to gain the consent of your research participants. If you plan to provide your consent information electronically, the contents of the attached consent document(s) should be made available without alteration.

Thank you for your cooperation with the IRB, and we wish you well with your research project.

Sincerely,

G. Michele Baker, MA, CIP
Administrative Chair of Institutional Research
Research Ethics Office